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Original Articles.

MA'S OPERATION IN CIRRHOSIS OF THE LIVER.

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Dr. Greenough's recent article¹ contains a list in detail of the cases of ascites due to cirrhosis of the liver treated on up to the end of 1902, no attempt will be made to review the literature. The author desires, however, to briefly mention his own experience in operating in a variety of cases.

In an article on this subject in THE JOURNAL of the American Medical Association, May 3, 1902, the author reviewed the available literature up to that date and published two cases of his own. Since then he has operated in four more cases, making six altogether. The two previously reported were:

CASE 1.—Man, aged 56, hard drinker; atrophic liver, enlarged spleen, jaundice, ascites; duration about one year; tapped nine times. Omentum greatly thickened and very adherent. Operation March 30, 1900. Abdomen closed without drainage. Recovery. No improvement. Died in three months. Autopsy showed cause of death was cerebral hemorrhage.

CASE 2.—Man, aged 55, hard drinker; atrophic liver, spleen enlarged, ascites; duration about four months. Edema of legs marked arteriosclerosis. Operation July 10, 1901. Abdomen closed, no drainage, recovery. Tapped three times after operation. Died in two months.

The unpublished cases are:

CASE 3.—F. P., aged 40, farmer. Admitted to hospital Oct. 12. Family history negative. Had pneumonia at 14 and smallpox at 18. No venereal history. Had taken alcohol freely for years.

His trouble began about six years ago with weakness, the right side in region of liver, with slight jaundice. He has gradually lost in weight and strength. About six weeks ago noticed that his legs and abdomen began to swell. Has had considerable bleeding from the nose.

Examination.—Poorly nourished; complexion sallow, conjunctivae icteric; tongue coated. Heart negative; double hydropneumothorax. Few dry râles at apex of left lung. Abdomen moderately distended with fluid. Edge of liver felt hard and nodular. Spleen enlarged. Urine clear; 1003; slightly acid, low. Urea 0.5 per cent., no albumin, no sugar, no casts. Tapped once. Fluid was alkaline, sp. gr. 1009. Did not coagulate. Contained red blood cells, some normal, others atypical and a few leucocytes.

Diagnosis.—Cirrhosis of liver with ascites.

Operation.—Oct. 30, 1902. Median incision above umbilicus. Liver was hard and granular, but apparently not much diminished in size. Parietal peritoneum denuded by scraping with scalpel and omentum stitched to it over as large an area as possible. As the gall bladder was quite large and distended it

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was drained through a second incision. Incision in midline closed without drainage.

Recovery. After two weeks he was up and around. Some fluid reaccumulated in the abdomen, but not enough to require tapping. He carried a bottle pinned to the dressing, into which the bile drained. He felt quite bright and was very active, while before the operation he had been confined to his bed. On November 26 he took an ordinary dose of Epsom salts. This produced considerable griping. He became collapsed and died in a few hours.

Autopsy.—Limited to abdominal cavity. Considerable fluid in peritoneal cavity. Liver firmly adherent to diaphragm. Omentum, transverse colon and stomach adherent to parietal peritoneum. Liver very small, markedly granular and cuts with greatly increased resistance. Spleen enlarged, firm and of a dark reddish color. Liver with portion of diaphragm, mesentery, etc., removed for microscopic examination. Peritoneum showed marked thickening of the endothelial layer. Hyperplasia of subendothelial connective tissue with slight diffuse round cell infiltration.

CASE 4.—E. W., aged 43, watchman. Family history negative. Excessive smoker of cigars and pipe. Heavy drinker; daily average six glasses of gin, eight of beer and an occasional whisky. Specific infections denied. In 1891 lost right arm in railroad accident.

General health fair until about four years ago, when he was admitted to Alexian Brothers' Hospital with ascites. He remained in the hospital about three weeks and was tapped three times. He left improved, and continued feeling fairly well without reaccumulation of the ascites for about six years. The abdomen then became distended and he was tapped once. Following this was about one year of comparative health. The only complaints were a rather poor appetite at times and an occasional attack of diarrhea, alternating with constipation. Two days ago he caught cold and the abdomen rapidly filled again. He had considerable paroxysmal pain in the abdomen. No vomiting, but eructations of gas.

Examination.—On entering the hospital, Dec. 22, 1902, examination showed a well-developed man, though beginning to show emaciation. Skin and conjunctivae distinctly icteric. Right arm absent. Slight edema of legs.

Heart: Apex in fourth interspace one inch inside of nipple. Rhythm rapid but regular. Second sound accentuated. No murmurs. Lungs: A few râles.

Abdomen: Filled with fluid; superficial veins distended; a distinct line of dilated capillaries following the costal arch on each side. Upper border of liver at fifth rib in mammary line. Lower border not distinctly outlined on account of the ascites. Spleen not palpable.

Urinalysis: 1020, dark brown. Urea, 2.4 per cent. Alb. +; sugar —; bile +. Microscopic: casts, erythrocytes, leucocytes and epithelial cells.

Blood: Reds, 3,976,000; whites, 2,750; differential count, 400 counted. Polymorphonuclear, 84 per cent. Small lymphocytes, 12 per cent. Large lymphocytes, 4 per cent. One eosinophile.

Jan. 1, 1903, tapped and 3,000 c.c. fluid withdrawn. Fluid alkaline, bile stained. Contained albumin. The fluid was

centrifuged and the cells stained. Result: Polymorphonuclear 84 per cent. Lymphocytes, 16 per cent.

Operation.—Jan. 6, 1903. Median incision above umbilicus. On getting through the abdominal wall very extensive adhesions were found attached to the omentum and colon. The veins were greatly enlarged and considerable hemorrhage was encountered. The adhesions were so extensive that it was impossible to get through them into the abdominal cavity. Another incision was therefore made below the umbilicus. This entered the free cavity. Examination now disclosed the most extensive adhesions, involving the entire omentum throughout the length of the transverse colon. The liver was also adherent to the diaphragm. The spleen, stomach, gall bladder and edge of liver could not be palpated at all, owing to the mass of adhesions. The walls of the small intestine were unusually thick and edematous. As there was no hope of making adhesions any more extensive than were already present, the incisions were closed.

Patient died Jan. 12, 1903, six days after the operation.

Autopsy showed typical contracted liver adherent to diaphragm, with extensive adhesion of omentum, etc., to anterior abdominal wall. Collateral circulation was well established and the veins very large.

CASE 3.—Wm. K., aged 36. Bartender. Family history not known. Smokes and chews tobacco to excess. Has tended bar for 20 years. During first ten years drank only a few glasses of beer a day; during last ten years drank from 15 to 18 whiskies a day with the beer, and for the past year drank even more heavily. Has had measles and smallpox, gonorrhea, but no syphilis.

Present Trouble.—About one year ago began to have morning vomiting. A drink of whisky would stop vomiting and nervousness. Occasionally could not retain his meals. Appetite variable. Easily fatigued. Slept poorly. Troubled with alternating constipation and diarrhea. About four months ago he began to have chilly feelings once or twice a week followed by sweats. Five months ago jaundice gradually appeared without pain. Stools for past week have been clay colored and pasty. Three days before entering the hospital pain, cramping in character, appeared in the right hypochondriac region and he noticed that the abdomen began to swell.

Examination.—Entered hospital Feb. 26, 1903. Weight, 120 pounds. Loss in past year, 30 pounds. Skin and sclera deeply jaundiced. Lips dry and cracked. Tongue furred. Showed marked symptoms of cholemia.

Heart: All sounds weak. *Lungs:* A few râles. Liver dullness extends about 3 cm. below arch. Spleen not palpable.

Abdomen considerably distended with fluid. Hemorrhoidal veins greatly distended and dilated. Knee reflexes absent. Eye reflexes present.

Urinalysis: Color dark, greenish cast, turbid, alkaline 1008. Urea, 0.2 per cent. Albumin trace. No albumose, no sugar. Bile, much. Hyaline and granular casts few. Leucocytes and epithelial cells.

Blood examination: Reds, 3,160,000; whites, 25,600; polymorphonuclear, 75 per cent.; large mononuclear, 13 per cent.; small mononuclear, 12 per cent.; no eosinophiles; hemoglobin, 50 per cent.

Inoculations were made from the blood drawn from a vein in the arm, but no growths were obtained.

Operation.—Longitudinal incision right border of rectus. No adhesions of omentum present. Gall bladder filled, but not abnormally distended. Liver decidedly cirrhotic, very firm in consistency; surface granular. On the inferior surface of the liver about the hilus were two or three lobules or masses about the size of hens' eggs. When first palpated they felt like a malignant growth, but closer investigation showed them to be composed of tissue similar in appearance to the surrounding liver.

The gall bladder was stitched in the upper edge of the wound and drained. A large pocket was formed by dissecting up the inner layer of the sheath of the rectus, and into this the omentum was placed and stitched with catgut. The incision was closed up to the drain. His symptoms of profound cholemia

or intoxication continued unabated and he died on the second day. No autopsy permitted.

CASE 4.—Mrs. E. C. S., aged 43. Father and mother living and well, aged 68 and 62 respectively. Six sisters living and in good health. Was healthy as a baby and throughout youth. Had usual diseases of childhood, except scarlet fever. Menstruation began at 13. At 18 was treated for chlorosis. A had diphtheria, was very sick for four weeks, but recovered without complications. Married at 30. Has had two abortions, both induced by drugs at about the third month. Contracted syphilis at about the age of 25. Has been an excessive drinker of coffee, especially for past eight years. Drinks coffee at each meal and often between meals.

About two years ago patient was taken with attacks of severe pain in right hypochondriac region. These attacks would recur at irregular intervals and often with increasing severity. About one year ago began to have trouble with stomach. Had feeling of fulness and distress in epigastric region with vomiting and palpitation of the heart.

About nine months ago had attacks of pain in both hypochondriac regions and soon thereafter first noticed abdominal enlarging. In July, 1902, was tapped and a large amount of fluid removed. Since then has been tapped fifteen times from two to four gallons of fluid removed. At last tapping but little fluid was obtained, although abdomen was greatly distended. Constipation has been the rule. Has never been jaundiced. Is troubled considerably with dyspnea and cough with expectoration of tenacious mucus. Has lost considerable flesh. Legs somewhat edematous. Abdomen greatly distended.

Urinalysis Nov. 25, 1902: Acid, 1020; urea, 1.2 per cent. albumin, —; sugar, —, casts, —.

Operation.—Nov. 25, 1902. Abdomen opened in the midline above the umbilicus. The most extensive adhesions were found between the omentum and anterior abdominal wall. The liver was adherent to the diaphragm and the gall bladder and edge of the liver could not be located owing to the mass of adhesions. As no more extensive adhesions could be produced the abdomen was closed. No improvement followed. She left the hospital Jan. 6, 1903, and went to a neighborly state, where she was heard from last about five months after the operation. The abdomen filled and tapping was necessary.

Of the six cases, five were dead inside of a month after operation and one was alive, but without improvement, five months after operation. The five cases that died were undoubted cases of alcoholic cirrhosis; one that was living at the end of five months was probably due to syphilis. All of them were far advanced when operation was undertaken, and, while it cannot be claimed that any material improvement followed the operation, the cases are of interest and afford some instructive points.

In two of the cases, in addition to omentopexy, cholecystostomy was performed in order to drain the gall tracts for the purpose of relieving, if possible, the so-called cholemic symptoms. Death followed in one of the cases in a few days; in the other, some apparent improvement occurred. From a bedridden patient, he was able to be up and about, became quite active mentally and physically, and the color of his skin cleared up considerably. The bile flowed freely. Just as we were feeling encouraged somewhat over his condition, he rather suddenly and quite unexpectedly died. We believe, however, that drainage of the gall tracts in connection with Talma's operation may be desirable in some cases showing cholemic symptoms.

The case of E. W. is of particular interest. A heavy drinker, entering the hospital first in 1898 with distal symptoms of cirrhosis with ascites. He was tapped three times in three weeks. The abdomen did not reaccumulate again for about three years, during which time he felt

irly well. Why did the ascites remain absent for such long time following the three tappings? It is well-known that ascites sometimes disappears following the reduction in size of an enlarged and congested liver; but each can scarcely have been the case here, for the condition was one of a markedly contracted liver. It is also known that adhesions occasionally take place after tapping. The most probable explanation, therefore, is that the extensive adhesions which were found at the operation between the omentum, liver and abdominal parietes, and which were evidently of long standing, formed at the time of the first tappings, and the collateral circulation which resulted was sufficient to prevent the reaccumulation of the fluid for some time. If this explanation be correct, the case furnishes an excellent illustration of the benefits which might be expected at times to follow Talma's operation under favorable conditions.

The case also shows, as does that of Mrs. E. C. S., that, notwithstanding the most extensive adhesions, the time comes, sooner or later, when even a free collateral circulation is insufficient to prevent the development of ascites and the progress of the case to a fatal issue.

These cases also tend to confirm the statement of the writer in the article above mentioned on this subject to the effect that the congestion of the portal radicles was not the sole cause of the ascites, but that the changes in the peritoneum of a chronic inflammatory nature were instrumental in its production, particularly during the terminal stage. The fact that the fluid taken from the abdomen was hypertonic in the two cases, as shown by its crenating effect on freshly drawn blood cells from the same patient, is another evidence of the inflammatory character of the fluid.

In conclusion, the writer is of the opinion that the benefits to be derived from Talma's operation in alcoholic cirrhosis, even under favorable conditions, are but temporary. (In 105 cases collected by Greenough, but 9 showed improvement after two years.) In order to obtain the full benefit of the operation, it should be performed early, at the first appearance of ascites or even to anticipate the ascites, if possible. In cases showing jaundice or symptoms of cholemia, cholecystostomy should be performed at the same time.

THE RESTORATION OF THE PERINEUM.*

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Recent publications show that, notwithstanding the study of the subject by many of our best surgeons during the present generation, there is by no means a general acceptance of any well-settled method for the repair of the injuries of the perineum. On this account I add this contribution, although I have several times published monographs on this subject.

As a primary premise, it may be accepted that the repair of any injured organ should be undertaken to restore it, as far as possible, to its original normal condition. In order to accomplish this, it must be first ascertained just what the normal condition has been. In other words, it must consist of an accurate knowledge of the anatomy and function of the component parts.

The injuries to the perineal structures vary widely. In the minor degree, the hymen, or the vaginal fourchette, may be the only part involved, but such lesion

is, of course, excluded, except in the rarest instances, from surgical consideration.

The union of the transversi, interdigitating with the levator ani muscle, making the so-called perineal body, with their connective tissue sheaths, is the more common part to suffer injury. The lesion of these muscles may be central or lateral, a factor of some importance to determine before attempting restoration.

The lack of the central support due to such injury causes the transversi to contract toward their point of origin, resulting in a more or less marked patency of the vulvar opening. Where the injury is within this limit, the sphincter ani muscle, although itself uninjured, is in a measure disabled from the proper performance of its function by being no longer supported anteriorly. On this account the curve of the rectum is lost and the anal aperture falls posteriorly, inducing a saccation or pouching forward of the rectum, resulting in a more or less marked rectocele. *Pari passu*, the cervix is no longer held backward, and varying degrees of uterine displacement follow.

When the lesion has destroyed the entire septum between the vagina and rectum, the laceration is called complete. Of course, the saccation of the rectum does not take place, and more commonly the uterus remains in its normal position.

Since the dissections of Wm. Hunter, undertaken to demonstrate the anatomy and the physiologic function of the reproductive organs during pregnancy, the most valuable contribution to the proper understanding of the anatomy of the pelvic structures in the female are those of Dr. Henry Savage of London. These studies, supplemented by the important teachings derived from the study of frozen sections, greatly modify the previous views of the physiologic relationship of the pelvic organs. The depth of the perineum is less than usually described. The axis of the anus, cutting that of the vagina at nearly right angles, leaves in the external angle an irregular flattened position of tissue rarely, when examined on the living subject, more than one-half an inch in thickness. In the nulliparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles, sustaining fascia and the anterior portion of the sphincter ani muscle.

The vaginal side is usually concave and the rectal side convex, owing to the interblending of the sphincter ani. If the finger is carried just within the perineum proper, and a little to one side, there can be felt the firm encircling band of the levator pubococcygeus, attached to each ramus of the pubes above and descending to join with the posterior fibers of the sphincter ani and the coccyx. In the perineum, posteriorly, this is firmly interblended on either side with the transverse perineal muscles. These muscles are under the control of volition, in considerable degree, and, acting conjointly, serve to draw the vagina forward toward the pubes.

The parturient and fecal canals are supported in the pelvic basin in close apposition, and the functional relationship is often such that the one may encroach on the other, in a way so as to occupy nearly all the space accorded to both. This is especially true in parturition, when the rectal space is reduced to a thin, folded, flattened tube; and often in elderly women, with old perineal lacerations, the rectum becomes saccated, pushing forward the posterior vaginal wall, forming a considerable-sized external tumor. The pelvic floor is so formed and blended about these openings that it not only sup-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

ports these canals, but also materially aids them in their physiologic function. In intimate relation to both are the bladder and uterus in their ever-varying functional activity, and each is surrounded by a delicate plexus of nerves and vessels.

The sacral prominence throws a large proportion of the abdominal weight on the symphysis pubis and the recti muscles in the support of the body, and thus relieves the pelvic basin and takes off undue strain on the pelvic floor. The rectum is rarely entirely empty, is circular in shape, serves the digestive apparatus, in a measure, as a constantly receiving reservoir, and, when not distended, may be felt from the vagina as a flattened tube curving posteriorly. It is suspended and supported, so to speak hung, by the levator ani muscles which hold the vagina in their encircling loops. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened anteroposteriorly on itself, and, normally, its walls are, when at rest, ever in close apposition.

The vagina joins with the vulva at right angles to its lateral opening at the entrance of its passage through the pelvic floor.

The vulvar organs are all intimately blended with and go to form a part of the perineum proper. On each side of the vaginal orifice are the erector clitoridis, the bulbocavernosus and the transversus perinei muscles, and these with the levator ani make up, in large measure, the pelvic floor. The bulbi vaginae and bartolinian glands are covered by these muscles with their erectile plexus of vessels and abundant distribution of lymphatics and nerves.

The erector clitoridis and bulbocavernosus muscles, with the transversus perinei, join on each side to constitute the ovate muscular vaginal orifice, and in their conjoint action perform a very important physiologic function in sexual congress, often underestimated or ignored. Their impaired function frequently underlies certain reflexive nervous conditions, distinctly pathologic, which are easily overlooked, but are the causes of much suffering and unhappiness.

The much-discussed, so-called perineal body has, in my opinion, misled some of our prominent authors into false positions, and caused great confusion and misunderstanding among physicians.

I have been criticised in emphasizing the muscular floor of the pelvis, and that I underestimate the importance of the variously distributed connective tissue fascia. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male, as well as in the female, covers and encloses the transversus perinei muscles, forming strong ligamentous transverse bands, uniting in the perineum, designated by Savage as ischio-perineal ligaments. The pubococcygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid, not only in closing the rectum, but in holding both it and the vagina in the anterior curve, so important to be retained for the preservation of normal function.

A horizontal section made through the floor, just above the sphincter vaginae, and posterior to the junction of the transversus perinei, shows the deeper fibers of the pubococcygeus, united in a loop behind the lower border of the rectum, holding it from its fixed point at the pubes, as in a sling. This loop is connected with the transversus perinei, bulbocavernosus, erector clitoridis, sphincter vaginae and sphincter ani muscles by strong layers of connective tissue, the importance of

which, for union and support, can not be readily overestimated.

On the posterior wall of the vagina, in its lower third, longitudinal muscular fibers are found external to the circular layer, and these intimately blend with the pubococcygeus, giving a firm support to the vaginal outlet, quite as the outer longitudinal fibers of the rectum unite with the deep layers of the sphincter ani. The physiologic action of the muscles, thus grouped, serve to draw the rectum forward toward the pubic arch, and this explains, in large degree, why the circular fibers of the vagina, left free to act in other directions, are intrafolded laterally, making in cross section an imperfect letter H, first pointed out by Freund in 1883. The intrafolding of the vagina at right angles to the vulvar outlet is very important in its relationship of support to the uterus and its appendages.

The surgical procedures which have been devised for the restoration of these structures are manifold, and many of them are in the highest degree ingenious, but too often confusing and unsatisfactory.

The study of their history is instructive and profitable, but the field is to me more tempting for review than it is to the junior practitioner, since these various procedures have been elaborated, for the most part, within the period of my surgical experience. I purpose, however, to limit myself to those only which have a bearing on the methods which I have especially commended.

My earlier masters, Marion Sims and Thomas A. Emmet, most ingeniously devised scissors with various curves and dextrously used them to denude the posterior V-shaped portion of the vagina which was thought advisable for coaptation. So exceedingly dextrous were these men that I have seen them pare back and forth a narrow ribbon from this portion of the vagina, leaving the dainty piece unbroken.

My late friend, Dr. Edward Jenks of Detroit, separated this portion of the posterior wall of the vagina as a flap instead of denuding with the scissors and then cut it away and sutured as Sims and Emmet had done. Not long prior to this I had begun the use of buried animal sutures in a considerable variety of wounds, and it occurred to me that, by adopting the method of Dr. Jenks, I could preserve the flap thus separated and coapt the deep structures by sutures buried beneath it.

I soon found that the line of division was not the mucous membrane from the vagina, as these authors had supposed, but the attenuated posterior vaginal muscle, often so thinned out as to be hardly recognizable. For obvious reasons the posterior vaginal fascia holds the vagina loosely to the subjacent structures and the separation is not difficult except when united by bands of cicatricial repair. By this division, it is not difficult to differentiate the levator loop and bring it with the ends of the separated transversi into easy inspection. A further dissection externally on either side of the sphincter ani makes the wound of sufficient size for easy manipulation. This permits the reconstruction of the perineal structures in a simple and easy manner.

With various unimportant modifications, this is the method which I have practiced and taught for more than a quarter of a century.

Finding that the catgut sutures did not always hold the parts in coaptation sufficiently long, I devised a lateral support by means of two or more disjointed pins, which united after their introduction, held the parts in juxtaposition after the manner of an ordinary safety pin. I had the good fortune to obtain tendon sutures

from the tail of the kangaroo which proved reliable and rendered the use of fixation supports unnecessary. Since this period I have used only chromicized tendon sutures with entire satisfaction. These have been, and may be, applied in a variety of manners.

The first step in the operation is to dilate the sphincter. The index and middle fingers of the left hand are introduced into the rectum and retained there until the end of the operation.

The septum is made tense by the retained fingers and a button-hole incision is made on the median line by either knife or scissors. I prefer a double-edged, pointed knife.

Through this opening I introduce a knife of special design. I am sure additions to our armamentarium should not be made without good reason, but this instrument adds materially to both ease and safety of dissection. The cutting part is something the size and shape of the little finger nail and is placed at an angle with the handle, so that when pushed in a direct line the edge is at an angle of about forty-five degrees to the part to be divided. The parts are made tense by the fingers in the rectum and the knife is guided so that neither rectum nor vagina is injured. The lateral dimpled depressions in the vagina mark the site of the separated retracted transversi. Even with a sharp knife these are divided with some difficulty. Elsewhere the separation is easy and is often made almost entirely with the fingers, dividing an occasional cicatricial band by scissors. The Emmet scissors serve admirably for the separation of the vagina from the vulva. The little lateral fold of mucous membrane on either side shows the inception of the original lesion. To these points the dissection is carried anteriorly. Thus the posterior third or more of the vagina is separated from its attachments quite to the crest of the rectocele.

This flap is held anteriorly by an assistant. A large curved needle, firmly set in a handle, with the eye near the point, carries the suture. The fingers in the rectum materially aid in guiding the needle. It is carried through the left side penetrating the transversus and levator unthreaded and withdrawn. Rethreaded, the needle is made to penetrate just above the vaginal junction with the rectum and then is carried through the right transversus, unthreaded and withdrawn. This makes the upper border of the upper stitch. The suture is centered at this point of fixation and held by an assistant. The suture is again carried by the needle parallel to the first introduction—about one-third of an inch below it; unthreaded, rethreaded with the opposite end and withdrawn. This makes a double stitch exactly like that of the cobbler, the needle serving as carrier of the suture from opposite sides. In this way three stitches are usually taken. When drawn on moderately tight, the widely separated structures are evenly coapted on the median line and are held in fixation.

The remaining tissues are united by a light, continuous running suture, best effected by a rather large-sized, full-curved Hagedorn needle. The distal end is fixed by a loop knot and the needle, carried deeply from side to side, places the suture at right angles to the long axis of the wound. Where drawn on, the tissues are evenly coapted in the median line, with no suture material in the line of union save where it crosses at a right angle to it.

I have called this stitch the parallel suture, since the needle is inserted parallel to the long axis of the wound. In this way the entire wound is easily and rapidly

closed, the reconstruction being made so complete that the vulvar opening is entirely restored, even to the reformation of the hymen if desired.

When the laceration has been so extensive as to include the sphincter ani muscle and a portion of the rectum we have quite another problem.

The posterior vaginal wall is not thinned out as in rectocele. Quite the contrary, the vaginal muscle is contracted, often the vagina thick-walled. The rectum and vagina are separated quite as freely as in the incomplete form of the injury. This permits the reconstruction of both rectum and vagina by separately reuniting them with continuous sutures, care being taken not to penetrate the bowel or vagina by inserting the stitches from side to side from the dissected surfaces only. The rectal suture must penetrate the connective tissue of the bowel, here much thicker than in the free portion of the large intestine. The vaginal suture is given to an assistant and held forward. The rectal suture is held by the weight of a pair of forceps. The wound is now restored to conditions not unlike those of the incomplete rupture when ready to introduce the parallel double fixation sutures for the reunion of the transversi, and the operation is completed, as above described, only the separated retracted fibers of the sphincter ani muscle must be freed and sutured. The short wound in the median line is closed by a light-running buried suture, the wound dried and sealed with iodoform collodion.

IN RESUME.

By free dissection and the use of buried absorbable sutures, the parts are entirely restored to their former normal anatomic condition and physiologic function. Aseptically maintained, the repair is rapid and painless.

The urine should be drawn for the first days. The bowel is never allowed to become distended with hard fecal masses. In complete laceration, a large rectal tube of soft pure rubber should be used.

RESULTS.

I have within a few days seen a lady on whom I operated thirty years ago by the methods as above outlined. I since have operated several hundred times.

Recently a visiting surgeon, seeing the operation, asked our matron: "How large a percentage of Dr. Marcy's cases have failed of good results?" She looked surprised, but replied: "I do not know of a single case." "How long have you been in charge of the hospital?" "Over sixteen years." So seeming an unimportant operation has it become with us that a careful statistical table could be made only by an amount of research work not deemed necessary, but I am sure the reply of our matron is essentially correct.

DISCUSSION.

DR. A. H. GOELET, New York—I doubt whether the deep through-and-through suture would succeed in the hands of all who should attempt this operation. The objection is that it constricts the parts, cuts off the circulation and nutrition and often results in failure. I have tried every operation on the perineum, except the Tait flap-splitting operation, which I do not approve, and have abandoned them all for the Hegar-Martin operation in which the denuded surfaces are united by means of buried layer sutures of chromicized catgut. That has given me far better results than any other operation on the perineum and I now never have a failure. It seems to me a valuable point to avoid as much as possible handling the denuded area, and instead of sponging to keep a continuous stream of normal salt solution playing on the wound to keep the field clean. This will aid materially in securing primary wound healing.

DR. F. A. DUNSMOOR, Minneapolis, Minn.—One of the essential things brought out in the paper is that the reason for so many failures in repair of the perineum is that the sutures are not introduced properly; not that they fail to close up the denudation, but the result is not what we should wish it to be. If we are to get any real benefit from this operation in the vagina we must increase the depth of the vagina from the vulva to the region of the cervix, and narrow it from side to side, thus tightening up the relaxed walls. This can be done whether the freshening is made by the flap-splitting method or by any other plan, but it is extremely important that the sutures are passed horizontally and are not to be introduced from the margin of the vulva, then carried to an apex near the emergence of the cervix, returning by a corresponding oblique line to a point opposite that starting. In the latter case, when we tighten the sutures, we bring the upper part of the vagina down toward the lower, and the vagina is widened and shortened. As time goes on the posterior wall relaxes more and more, forming a rectocele. There is a way of overcoming the objection made by Dr. Goelet. If we introduce the sutures in two layers, beginning one-third of an inch inside the margin of the denuded wall on the right side and depress the middle of the denuded septum, emerge for half an inch, and then pick up the opposite side, to within one-third of an inch of left margin, repeating every one-third inch, we will make all the way down a backbone or thick septum. Then while passing the second layer of sutures, pass the needle in the first instance horizontally across to accurately adjust the wound margin. Next through the new body made by the first tier of sutures and include fascia and supporting muscles of each side. Alternate these two styles of sutures until the vulva is reached. The circulation is not cut off. Further, we get a more lengthened perineal body than by any other method, and a support for the rectum, thus correcting the rectocele and assisting the expulsion of fecal matter from the rectum; narrowing the vagina from side to side and increasing its depth. This operation on the perineum should have for its object the restoration of the normal supports of the perineal body and holding it up in a definite position. Dr. Marcy's method of reuniting the divided muscles by suturing at right angles to axis of vagina accomplishes the desired result.

DR. A. M. HAYDEN, Evansville, Ind.—I have made it a point to absolutely coaptate the parts without any wrinkling. I denude and take out the flaps as much as I want so as not to narrow the caliber of the vagina, and then use interrupted or continued catgut sutures, commencing at the lower border and putting them in back and forth. After I get the muscle all coapted nicely, I suture the vaginal mucous membrane from the upper part down to the skin without catching the muscle at all. The skin of the perineum I suture in the same way with superficial sutures. I use two or three layers of sutures to coaptate all the parts and bring them together nicely.

DR. HANNAH GRAHAM, Indianapolis—I have used a method of repairing the perineum for the last four years, but have not published it. I insert a Kelley tenaculum on each side and with the scissors cut straight across. I slip the finger into the rectum and with an ordinary scalpel I make a sort of bib-shaped denudation. Instead of cutting down and making a Y-shaped denudation, I denude perfectly straight. Then I pull down the center point of the upper edge of the denuded area to about the site of the fossa navicularis, where I unite it on each side with a continuous catgut suture, after having united the edges of the transversus perinei with a buried suture. I have used this method in cases of prolapsed uterus and it has held the uterus up very well. The perineum does not stretch out as I have seen it do with other methods, and I have examined patients who have had as strong a perineum after four years' standing as immediately after the work.

DR. R. H. GIBBONS, Scranton, Pa.—If Dr. Marcy's stitch is properly introduced and fixed it can not cause choking of the muscular structures or vessels; nothing but good can happen. I tried it on many occasions and it was the fault of the absorbable material that I gave it up and also because I went back to my first love, Dr. Emmet's method. I can do this operation better than any other and I believe it meets every

indication. Those who talk of the operation of exposing the muscle where it is torn, Reed, Harris and others, claim that Emmet's operation will not do what he claims for it. If the denudation is properly made all the separated fibers of the muscle are exposed, and if the stitches are properly applied all the parts must be brought into apposition. If you pass the suture downward from the very apex of the denudation and bring it down into the muscle, you catch the principal fibers of the muscle, and passing it down, the lower fibers are caught, thus bringing all the fibers in apposition. There is no operation that can improve on the Emmet method if it is learned from Emmet or his students. Dr. Marcy's operation is the first of what are termed modern operations and he is entitled to credit for having formulated a method of introducing a buried absorbable suture that fixes the parts and keeps them fixed without strangulation. Dr. Graham has introduced a very practical point, the idea that the first stitch usually throws the apex of the rectocele high up where it should be after the method of Andrews of Chicago.

DR. A. H. GOELET, New York—I overlooked a point in my previous remarks which is very important in obtaining primary wound healing, and that is to keep the wound dry. Many practitioners who are compelled to do this operation are obliged to practice without the aid of a nurse and who must care for the patient after the operation, can avoid the necessity of coming back a number of times a day to catheterize. I have had made a rubber perineal shield which has a little tongue that is inserted into the vagina and catches under the urethra forming a gutter for the urine. It is strapped with adhesive plaster to the thighs, so that when the patient urinates the urine passes down the gutter into a bedpan beneath without soiling the perineum. The perineal wound can then be dressed with gauze beneath this shield and can be kept dry just as any other wound. This shield is not, of course, necessary when the services of a skilled nurse is obtainable, but it adds greatly to the comfort of the patient if repeated introduction of the catheter can be avoided, and I regard it important to prevent contamination of the wound by the urine.

DR. WALTER B. DORSETT, St. Louis—I object to the word denudation. It implies very little. Usually when we speak of denudation we mean that we take off the mucous membrane. If we are going to make a perineum that is going to be of any service, whether for rectocele or simply for a relaxed outlet, we have in the first place a stretching of the mucous membrane, together with a stretching of the vagina, a stretching of the circular muscle fibers of the vagina; therefore, in order to repair that properly we must do something more than a simple denudation; we must take out sections from the vagina. I commence on one side and cut deeply until I get beneath the vagina, then I take hold of it with a pair of forceps, pass my fingers up and dissect the vagina from the rectum. Then I begin at the upper angle and introduce the sutures. (Dr. Dorsett illustrated his technic.) When I draw on the upper suture I lift up the whole perineal body. If we simply denude, as I have seen many surgeons do, we fold the connective tissue together, and if we get any union at all it is only by slight adhesions, and it is of absolutely no benefit. The operation I do is essentially that given us by Emmet.

DR. J. H. CARSTENS, Detroit—Concerning the denuded surface, what is there in the first place? A ruptured perineum, torn fascia everywhere and a muscle that is torn completely through. If there is an Emmet suture put in, I do not care which way it is pulled, on being drawn together it puckers up. One can not do anything different with a large suture. One can not get the parts accurately together. (Dr. Carstens then illustrated his method on the blackboard.) I put in thirty or forty stitches and build up a perineum that is as near like the original perineum as I can make it. Ideal surgery is to use the buried suture, and not the big *en masse* suture, which is a catch-as-catch-can suture. If you hit it, all right; if not, then you don't.

DR. A. PALMER DUDLEY, New York—What is the pelvic floor? The levator ani muscle; the transverse perineal muscle from the ramus around to coccyx and to anus. What is split? The perineum. What is the perineum? The two halves of the

levator ani muscle. You get them together to have a returned sphincter action. I am going to reverse the order of operation on the perineum entirely. The muscle is surrounding the vagina; it is ruptured. If you make Emmet's operation where is the fixed point, and from where are you drawing tissue? You are drawing movable vaginal tissue. If you will do a proper operation you must denude and use some suture which will unite the muscle end to end and not to cellular tissue or mucous tissue. (Dr. Dudley demonstrated his points on the blackboard.)

DR. H. O. MARCY—The premises I took at the opening are verified. There is as yet an entirely unsettled idea as to what we should do in restoration of the perineum. Two or three things should be settled on here and now, and the discussion aids in elucidating this matter. I omitted much in the reading of my paper in order to save time. The whole idea is that we must reunite the ruptured muscles in the median line, where the interdigitation of the transversi with the levatores make the so-called perineal body. How this can best be effected is the problem. That which I claim to be of advantage is, that in dissecting up the posterior two-thirds of the vagina we are enabled to reach and reunite the separated structures. Into the vulvar opening, thus restored, we suture the thinned-out vaginal muscle sheath, much as the tailor the sleeve into the arm hole of a coat. In this reconstruction, all the tissues are utilized. Nothing is dissected away. The process of restoring the soft parts is simple and easy. The operation is really done in half the time I am discussing it. Dr. Goelet's criticism is well taken if too much force is applied in the constriction of the sutures. Retention at rest of the reconstructed tissues without constriction is of vital importance in the application of all buried sutures. Continuous suturing is safer than interrupted stitches, since the force must act equally on every stitch. The wound must be protected from the urine. With the assistance of trained nurses I have operated on several hundred cases without a single failure.

THE REPAIR OF CYSTOCELE

BY UTILIZATION OF THE ANATOMICALLY FIXED POINTS
IN THE ANTERIOR VAGINAL WALL.*

E. REYNOLDS, M.D.

BOSTON.

A year ago I read before the American Gynecological Association a paper on this same subject, setting forth what I believed to be somewhat new and important points in the repair of cystocele. My object in this present paper is to restate the facts and conclusions then brought forward, with the developments which have been obtained in another year of work, and supported by the ultimate results of the cases then reported.

We hear nothing nowadays of new methods of operation in the repair of the lacerated cervix, and for several years have heard nothing of new methods in the repair of the perineum. These operations are satisfactory. The anatomic principles on which they were founded are well worked out, and there is little more to say about them, hence the silence. The third great plastic—the operation for the repair of cystocele—stands on very different ground. New operations are still proposed almost as frequently as in the early days of plastic operating, and we should most of us agree at once that no one of all these many operations and no group of operations has overcome the others and become accepted. I believe that this uncertainty and unsatisfactory state of the cystocele operation has been due to our failure to comprehend until recently the anatomic conditions, an observance of which must necessarily underlie all successful repair, i. e., I believe we have been in the habit

of puckering up the loose tissues by merely empirical methods, and have not searched intelligently for the anatomic supports of the wall and sutured them directly to each other. If the operation is ever to be put on a rational basis, the first step in the process must be an inquiry into the anatomy of the anterior vaginal wall; and to state the results of such an inquiry is the first purpose of this paper.

The structure usually spoken of as the anterior vaginal wall is really two structures and is composed of the loose, elastic, non-resistant posterior wall of the bladder in combination with the strong sheet of muscular and connective tissue which forms the true anterior vaginal wall, but which may be here called for distinction the vaginal plate of the anterior wall. The vaginal plate is but loosely attached to the bladder, is normally firm, non-distensible, and strongly fastened to supporting tissues on all sides. It is attached at its lower end to the tissues immediately behind the pubic bone. At its upper end it is inserted by its central portion into the cervix and, which is of more moment, by its lateral corners into the important masses of connective tissue and unstriped muscular fiber which extend through the lower portions of the broad and uterosacral ligaments to find their attachments in this vaginal plate and in the supravaginal cervix. By its lateral edges throughout it is attached to the pubococcygeal and the allied group of transverse muscles which here find their only insertion into the vagina. To recapitulate: In the normal state these strong supporting structures are inserted into the four edges of the strong sheet of muscular and connective tissue which we know as the anterior vaginal wall, and are by it bound together into a firm floor which supports the bladder, the whole being in its turn reinforced, but only reinforced, by the support of the posterior vaginal wall below it.

This being the normal anatomy of the anterior vaginal wall, we should next inquire into the anatomic conditions which prevail in cystocele, and this is perhaps best reached by considering the conditions which are found during and at the close of labor.

It must be remembered that the posterior vaginal wall is mainly, and the anterior wall is wholly, supported by structures springing from the anterior half of the pelvic bones, hence it happens that while the walls themselves are exposed during labor to almost equal distending forces, the supports of the anterior wall are subjected to but little strain, and may even be relaxed by its forward distension during labor, while the supports of the posterior wall are subjected to great strain during its backward and downward distension, and in the concluding stage of labor the posterior wall and its attachments receive almost the whole strain of the advancing head.

The result is that the distended posterior wall is exposed to laceration, while the anterior wall, though always distended, is seldom lacerated. At the conclusion of labor, then, the attachments of the anterior wall are intact, but the wall itself between the attachments is greatly distended and therefore sags forward and downward under the influence of gravity. The natural result is that when the support of the posterior wall has been lost the vaginal plate often fails to recontract during involution, loses resiliency, and no longer supports the bladder, though its edges are still inserted into the intact supporting structures. This is, then, the anatomy of cystocele, and the condition is, in effect, a hernia of the bladder through the foramen formed by the attachments of the anterior vaginal wall, carrying before it as its

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

distended and overstretched covering the vaginal plate of the anterior vaginal wall. A persistence of this condition is, in my mind, the anatomy of cystocele, but whether this theory of its causation be right or not, it is a fact, as anyone may convince himself by examining a series of cystoceles, that the central portion of the vaginal wall has lost its elasticity and becomes thinned and non-resilient; the weakening process being most marked at its center, and decreasing until at the upper and lower extremities and also at the lateral edges. The wall is still thick, strong, and held firmly in place. It is, then, this hernial condition which we are to repair.

It is an universally conceded principle in other hernias that an operation which pushes back the distended sac and unites its surfaces to each other will be inferior to an operation which excises the sac and brings together the actual raw edges of the supporting tissues which surround it. I believe that we shall find that the essential weakness in the many operations proposed for cystocele lies in our habit of merely refreshing the vaginal surface by superficial denudations and so uniting only the already overstretched and comparatively useless tissues of the hernial sac, instead of searching, as in other hernias, for the insertions of the supporting muscular attachments and uniting them directly to each other after an excision of the overstretched tissues. I believe that if this is done the actual shape of the excision is carried into the unthinned portions of the wall, and that the direction of the sutures is such as to bring the supporting structures together. The actual excision of a large portion of the anterior vaginal wall sounds at first like a far more severe affair than a denudation, but even if that were so, we have learned not to be afraid of severe operations for adequate cause, and, as a matter of fact, its technic is so exceedingly easy, simple and rapid that I do not think that any man who has even once performed the operation will look on it as being, in fact, more severe.

One further piece of anatomy should, however, be here referred to, since it is frequently of essential importance to a good repair, viz., the anatomic conditions present when cystocele is complicated by descent of the cervix. Even when this complication is present the conditions insisted on above will be found but little altered. The lateral and lower attachments of the vaginal plate will be found non-stretched, and even its upper lateral corners are, in point of fact, but little displaced, i. e., their supports are but slightly stretched and require for the replacement of the upper end of the vaginal wall no more than a slight shortening of their ends, but it is here essential to good repair that the cervix should be extensively freed from the central portion of the upper end of the anterior plate and from the bladder as well, both to prevent further tendency toward displacement, and also to permit the cervix to move backward and upward into its original position before the sutures are brought together. The condition is still a hernia of the bladder, though complicated by slight overstretching of the supports of the upper lateral corners, and by a traction on the cervix which must be released as one essential step in the operation.

While this paper was in process of preparation I was much interested in reading an article by Hirst of Philadelphia in which the importance of bringing together the intact lateral supports is detailed, although the necessity for excising the weakened portion of the vaginal plate is not recognized. I was still more gratified by a

paper¹ by Dudley of Chicago in which my former paper is referred to most kindly. In it the principles then enunciated are adopted as the necessary foundations for the repair of cystocele, the necessity for so shaping the excision as to throw the cervix well backward is described more forcibly than I had heretofore succeeded in doing, and an operation of Dr. Dudley's own devising is described. I can not help thinking that the shapes of both Hirst's and Dudley's operations are a little unnecessarily complicated. I believe that any operation which is to be successful must be so shaped and the stitches so inserted that both the lateral and upper and lower supports of the anterior vaginal wall will be utilized, i. e., so planned that the broad ligament attachments of the upper lateral corners and the firmly supported lower end of the wall will be brought together, as well as the insertions of the transverse muscles into its lateral edges. I think that if Watkin's operation or Emmet's latest operation were made excisions instead of denudations they would often fulfill well the anatomic conditions. I think that the operation which I have to report, as having been successful in my own hands, is, so far as the shape of the excised portion of the wall is concerned, merely one of many which might be de-

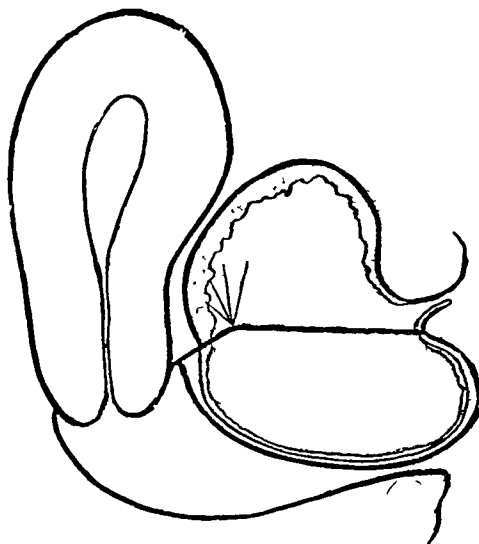


Fig. 1.—The heavy straight line shows diagrammatically the line of the repaired anterior wall.

vised, and probably one of many modifications which should be used for the differing forms of cystocele.

In short, I do not think that any of us have as yet evolved an operation which is perfect in its details, but, although I have been trying during the past year several modifications in the shape of the excised areas and the insertion of sutures, I have so far found none which has yielded me as good results as the operation which I reported last year, and have now to describe again.

Its main features of value are that it throws the cervix far backward into its original position and that while it shortens the vagina enough to restore the upper and lower supports to their original position, it is essentially a transverse operation.

The anterior wall having been exposed, preferably in Sim's position, the points AA (Fig. 2) at the sides of the cervix are marked by tenacula or tissue forceps. The point C, the highest point in the anterior wall which is still entirely intact and unthinned, is seized with tissue forceps and pushed upward along the median line until it is on the stretch. The points BB, situated laterally exterior to AA, are then selected as those which can be drawn by tenacula or tissue forceps into apposition with

C on the median line, and are similarly marked. The crescentic area indicated in the diagram is then lightly marked out with a knife as a guide in the excision of

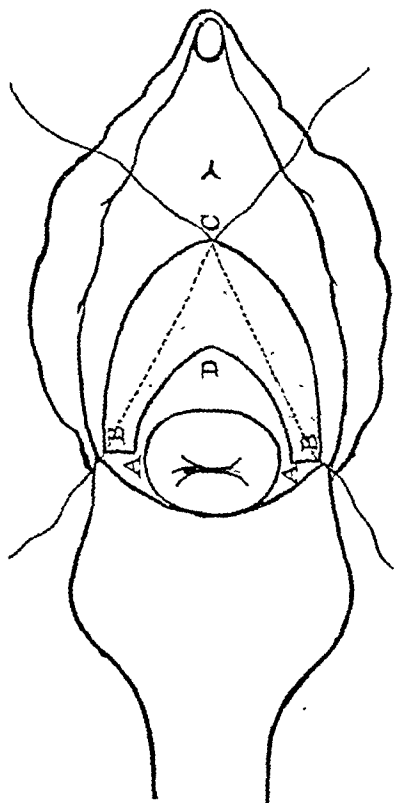


Fig. 2.—The excision complete and the primary sutures inserted

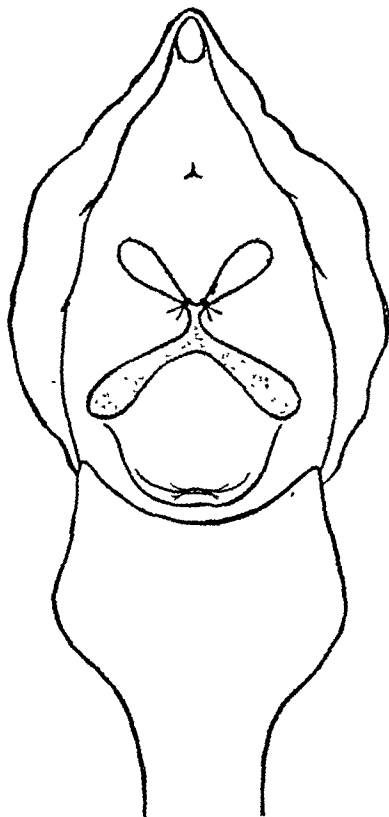


Fig. 3.—The first suture tied and the cervix thrown strongly backward.

the weakened portion of the wall, the point D being not more than half an inch in front of the cervix. Its exact position is unimportant. A short transverse inci-

sion at C is then carried through the vaginal wall until the point of cleavage between this wall and the bladder is found. The handle of the scalpel is then pushed upward, easily separating the vaginal and bladder walls until it is seen to reach the inner edge of the crescent at D.

The vaginal wall is then, as a matter of convenience, divided along the dotted line CD, and the vaginal and bladder walls are then rapidly and easily separated by the handle of the scalpel over the whole of one lateral half of the area marked out by the knife. The separated vaginal wall is then removed with the scissors and the process is repeated on the opposite side, leaving the uninjured bladder wall exposed over the whole crescentic area. The bladder is then separated from the supra-vaginal cervix and muscular fibers of the broad ligaments to the level of the internal os, a point the importance of which can hardly be overestimated, more

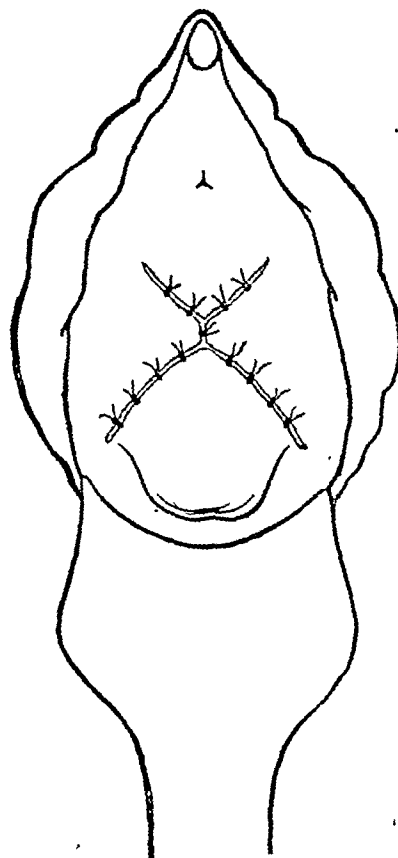


Fig. 4.—The operation completed.

especially in the presence of descent of the cervix. The points BB are next connected with C by sutures as indicated in the diagram, at C the needle being made to pass deeply through the whole thickness of the vaginal wall, and at B still more deeply in order to catch the fibers of the lower portion of the broad ligament; these sutures having been tied, the incision falls into the shape shown in the third diagram; the remainder of the wound is rapidly whipped together with a running catgut suture, the needle passing at each insertion through the whole thickness of the vaginal wall, and the operation is thus completed, the lines of union lying in the form shown in the fourth diagram.

As the result of this operation, the cervix is thrown markedly backward and the anterior vaginal wall is therefore in appearance rather lengthened than shortened, but its attachment has been transferred to the firmest supports of the vaginal vault, the bases of the

broad ligaments; the uterus has thereby been relieved of weight, and is found to be higher rather than lower; and the wall, as a whole, is drawn upward and forward behind the pubes in a way which affords a surprisingly firm support for the base of the bladder. (See straight lines on Fig. 1.) It might appear at first sight that a cavity would be left between the unaltered bladder wall and the line of union of the vaginal wall, but in practice the contractile bladder wall at once shortens itself to its new position, and no such cavity is left. The only vessels divided are situated in the vaginal wall, and bleeding is consequently controlled by the sutures. In practice I have had no trouble from this source. The only objections to the operation which I have been able to find so far are that in case of failure of union a secondary operation would be more difficult than after a simple denudation, and that it is not well adapted for performance at the same sitting with the repair of an unusually deep laceration of the cervix. An ordinary trachelorrhaphy does not interfere with it.

Last year I reported immediate good results in five cases, the ultimate results of which I have now looked up. I have since performed it with uniform satisfaction in many more recent cases.

CASE 1.—Mrs. A. D. P., aged 38, is the mother of three children, the youngest aged 3. The heart, lungs and urine were normal. Uterus was heavy and retroverted. There was moderate cystocele with considerable rectocele. Operation was performed Jan. 24, 1902, in the presence of Drs. Hubbard, Wadsworth and Allen. The cystocele was treated by the method described. Perineorrhaphy and ventrosuspension were done with exceptionally good results. To-day, fifteen months after operation, the perineum has yielded a little, but the anterior wall is nevertheless as firm as at the end of the operation.

CASE 2.—Mrs. M. Mc., aged 52, is the mother of two children, youngest aged 20. The heart, lungs and urine were negative. There was cystocele and rectocele. Operation was performed Jan. 30, 1902, in the Free Hospital for Women. Cystocele treated by method described. Perineorrhaphy was done and the perineal result was good. Operation on cystocele was exceptionally good. Has moved and been lost sight of; when last heard from result was unchanged.

CASE 3.—Mrs. N. M. B., aged 56, has ten children, the youngest aged 21. She presented no constitutional symptoms. There was cystocele with rectocele. Operation was performed March 4, 1902, in the Free Hospital for Women. Cystocele operated on by above method. Perineorrhaphy was done; the results were good. Seen April 30, 1903; result admirable.

CASE 4.—Mrs. A. D. W., aged 65, has five children, the youngest aged 30. Heart, lungs and urine were normal. Fundus was in normal position, but there was a greatly elongated and supravaginal cervix with prolapse of the anterior and posterior vaginal walls. Operation was performed March 18, 1902, in the Free Hospital for Women. The cervix was amputated. Cystocele operated on by above method. Perineorrhaphy was done. The result is good. Uterus outside of vulva. This was a large, stout, aged woman who has been doing hard work, whose perineum has yielded utterly as well as the cystocele. It is probable that no plastics would have been enough and that an abdominal operation should have been performed in addition. The typical cystocele operation was further complicated in this case by amputation of the cervix and consequent impairment of the whole vaginal vault.

CASE 5.—Mrs. E. K., aged 49, is the mother of two children, the youngest aged 26. She entered the Free Hospital for Women with pain about an encysted hydrocele of the cord. The heart, lungs and urine were normal. The uterus was retroverted and prolapsed with cystocele and rectocele. Operation was done March 13, 1902. Closure of inguinal ring and ventrosuspension were done by Coley's method. On March 25 cystocele was treated by above method. Perineorrhaphy was done and there were good results all around. She has grown

enormously stout since the operation, but when seen, April 30, 1903, had an absolutely good result.

In all these five cases the anterior vaginal wall arched upward and forward in front of the cervix at the end of a year just as it had done immediately after operation.

DISCUSSION.

DR. C. O. THIENHAUS, Milwaukee, Wis.—The methods of operation for cystocele differ according to the malformations present in the individual case and the forms of the cystocele. Take, for instance, a woman of 50, with a prolapse of the uterus together with cystocele, when the vaginal mucosa is thinned by overdistention, for such cases the operation advised by the author to-day is certainly not sufficient. These cases must be treated as a hernia, and last year I advocated the use of the muscular wall of the uterus as a protection against the pressure of the abdominal contents and the bladder. Free the bladder from the elongated cervix and push it up so that it disappears like a ball behind the symphysis and then fix the entire anterior wall of the uterus to the vagina, thereby supporting the bladder by the uterus. This will prevent the descent of both the bladder and uterus. Some have even found this not sufficient, but they fix the posterior wall of the uterus to the vaginal wall, thereby leaving the uterus in the vagina. Reynolds' method is a good one for certain cases, but in every case where there is retroversion of the uterus and the uterus lies in the axis of the vagina, what will happen? The uterus descends more and more with or without elongation of the cervix and the external os soon appears in the vulva. At the same time the bladder is naturally drawn down. Therefore, to correct this condition we must do something for the correction of the causative agent, that is the retroversion of the uterus, and for these cases in younger patients I have advocated, after freeing the bladder and pushing it up as above cited, the vaginal suspension which leaves the uterus in the small pelvis where it belongs, and does not drag it up into the abdominal cavity and against the abdominal wall (as an abdominal suspension), where it does not belong and has no place under normal conditions.

DR. J. WESLEY BOVÉE, Washington, D. C.—The treatment given by Dr. Reynolds is practically correct. We should treat this hernia as we do every other hernia, but we have conditions here which we do not have in the ordinary hernia. He said the operation draws the cervix back, but my impression has always been that any traction on the broad ligament anteriorly tends to drag the cervix forward. I think that the raising of the bladder and the high suturing in front is one of the strong elements which tends to prevent the cervix from taking an anterior position. I practice the method of separating the bladder, raising it and suturing the fascia laterally. I aim to do what I think he fails to do, to push the cervix back. My belief is that it is a better method to put all the sutures transversely and none of them anteroposteriorly. W. H. Byford taught us that the cervix must not be brought within less than 2¼ inches of the posterior surface of the symphysis. And I know that men who are less skilful than Dr. Reynolds in doing this plastic work will occasionally pull the cervix forward by improper traction in that direction if the sutures are placed in the broad ligament.

DR. E. REYNOLDS—I wish to express my interest in Dr. Bovée's criticism and to express my opinion that very much to my own surprise the effect which is produced by these sutures is a transverse narrowing and an elongation rather than a shortening of the anterior vaginal wall. I think I know why this is, but could not give an explanation briefly enough to be proper here. However, I do not care what shape of denudation you make, nor how many sutures you put in, nor how, if you will only get rid of the hernia after a rational method by complete excision of the hernial sac and direct suture of the ends of the undistended tissues.

FLIES.—In all diseases in which infection occurs through the alimentary tract, flies should be considered as important carriers of the infection, until this possibility is absolutely disproved.—*Brooklyn Med. Jour.*

REPAIR OF LACERATIONS OF THE CERVIX UTERI.

AN INVESTIGATION AS TO THE PROPER TIME FOR THE OPERATION.*

DANIEL H. CRAIG, M.D.

Surgeon to Out-patients, Free Hospital for Women; Assistant in Clinical Gynecology, Tufts College Medical School; Editor *Annals of Gynecology and Pediatry*, etc.
BOSTON.

The following paper embodies the conclusions derived from an investigation covering one year and five months. At the outset all preformed opinions were relinquished and a true spirit of unbiased investigation prevailed. Realizing that it is far easier to teach one wholly ignorant than to controvert preformed opinions, I placed myself in the attitude of a beginner. At the outset I was a partisan of certain operative procedures and certain methods of technic, but this investigation has shown me the narrowness of this attitude. The indications for any certain procedure or technic are inherent in the individual case, not in the predilection of the operator. It is, then, a modest following of the example of Herodotus in that it is "a setting forth of investigation."

As a basis of my study I carefully tabulated the results of one hundred tracheloplastic operations performed at the Free Hospital for Women. A majority of these operations were trachelorrhaphies. This number was selected, as the proportions also represent percentages. Considering two years as a minimum allowance in which to observe the ultimate results of the operation, including its effects on subsequent pregnancies, I began at Jan. 1, 1900, and worked back until replies were received from one hundred women.

So difficult is it to trace these nomadic patients that my one hundred include cases in which from two to five years have elapsed since the operation. Reporting cases under two years would easily have enabled me to tabulate results of several hundred cases, but would have lessened the actual scientific value of the deductions.

My first desire was to prove tracheloplasty a necessary and justifiable procedure. I use the word tracheloplasty, as suggested by Newman in 1898, advisedly, as I distinctly disclaim partisanship to any one procedure.

To consider an operation necessary, symptoms must exist which fail of relief by palliative treatment. To be justifiable, it must relieve these symptoms without endangering the patient's future welfare to a greater extent than does the disease, or it must protect her against a presumably more serious sequel of the above-mentioned symptoms. Except in very exceptional cases, tracheloplasty should be resorted to only after all possible improvement has been achieved by palliative treatment, and this failing, if the operation accomplishes the desired relief it is fair to assume that the operation was necessary. In practically all of these one hundred cases competent palliative treatment had been employed in our out-patient department.

To be justifiable, it must relieve the symptoms, local, referred, and so-called reflex, without causing future sterility, miscarriage or dystocia. Another justification exists if it can be shown to act as a prophylactic of cervical carcinoma.

My first step, coincidently with an extensive research of all reliable recent and much antequated literature on the subject, was the sending of a circular letter to

ex-patients requesting answers to the following questions:

THE QUESTIONS ASKED OF EX-PATIENTS.

1. Did the operation relieve your suffering?
2. Have you given birth to any children or had any miscarriages since the operation?
3. How many and when?
4. Was your womb injured by any of these births?
5. If so, how?
6. What is the name and address of the physician who attended you in each confinement since the operation?
7. Have you had any womb trouble since the operation? If so, please state the nature of the trouble.

The following is a summary of the answers received:

QUESTION 1.—Did the operation relieve your suffering? Complete relief resulted in 78 (78 per cent.) cases. Great relief followed in 11 (11 per cent.) cases. No benefit accrued in 11 (11 per cent.) cases. No patient was made worse by the operation. We are accordingly justified in stating that in properly selected cases a properly selected procedure is here devoid of danger; that it is followed by beneficent results in 89 per cent. of the cases. Eighty-nine per cent. of cure or great relief justifies the operation, but this percentage can be materially raised by a more discriminating selection of cases, more thorough palliative preparation and improvement of technic.

QUESTION 2.—This question regarding subsequent pregnancies sought a two-fold enlightenment, namely, does tracheloplasty predispose to sterility or to miscarriage? There were thirty-seven pregnancies subsequent to the operations and of these 24 (80 per cent.) went to full term. Whether any of these 13 (20 per cent.) miscarriages were procured I was unable to learn. Probably a few were. Twenty-three of my 100 women were past the child-bearing period or were widows, which elevates the percentage of pregnancies from 37 per cent. to an actual 49 per cent. Therefore, a proper tracheloplasty does not engender sterility. Moreover, accurate determination of this point is impossible, as most women having undergone one operation, the direct result of injuries incident to parturition, will by every means short of sexual abstinence avoid the possibility of another pregnancy, and such pregnancy occurring will still seek to avoid an operation by seeking early abortion. Twenty per cent., undoubtedly including some procured, is too small a percentage to justify the statement that tracheloplasty predisposes to miscarriage.

QUESTION 3.—This proved almost entirely irrelevant, most ex-patients having had but one child. This fact is due to my receiving more answers from recently operated women than from those of more remote date.

QUESTIONS 4, 5 AND 6.—These questions regarding injuries, their nature and the accoucheur can be considered together, as they coincidently led to much investigation. Only 4 patients were aware that they were relacerated; definite negative answers were received in 13 instances; 20 failed to answer the question. The fifth question (if so, how?) was irrelevant. Each accoucheur was addressed through a circular letter. All letters reached their destinations, but only 16 of the physicians took the trouble to furnish me with data. On the other hand, several went to great trouble, even visiting and examining patients for me, and to all who answered I wish to express my thanks.

The questions were:

THE QUESTIONS ASKED OF ACCOUCHEURS.

1. Did the cervix dilate easily?
2. Was the cervix relacerated?

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

3. If a laceration occurred should you estimate it as of the first, second or third degree?

Fourteen of sixteen answers told of easy dilatation of the cervix and in 3 instances it was "very easy." In 2 others no dystocia existed, the cervix behaving like that of a primipara. The cervix was relacerated in 8 cases, not relacerated in 7, and in 1 case the physician did not know. Of the 8 relacerations 5 were slight, 3 were of the third degree and in 1 the degree was not recorded. While these numbers are too small to justify broad deductions they at least show that relaceration can not be justly exploited as a serious contraindication when definite indications for tracheloplasty exist.

QUESTION 7.—Sixty-seven women (67 per cent.) have after the lapse of from two to five years been entirely free from "womb trouble." Nineteen of these have sustained labor or miscarriage without recurrence of symptoms. In 8 cases a subsequent labor or miscarriage determined a recurrence of former symptoms. By extra investigation or personal examination I have ascertained that 12 of the 33 not permanently cured owe their symptoms at present to adnexal lesions, fibroids, etc. There has been no instance of malignancy. In 5 instances the recurrence of pelvic symptoms was due directly to traumatism, and, lastly, in 7 cases I thought it possible that the technic might have been faulty. Thus ruling out the 12 non-cervical and the 5 traumatic cases our percentage of recurrences is reduced to 16. Therefore, in properly selected cases a proper plastic operation is capable of being permanently curative, exclusive of relaceration, in 84 per cent. of the cases.

Another fact brought out is that women past 35 are more permanently benefited than those younger. I consider the reason for this to be the fact that they do less hard work than younger women; their children have outgrown the age of being constantly lifted and carried; they are more temperate in all things, including sexual relations, and they seldom have children after the operation at this age.

Having satisfied myself that a proper operation after proper palliative preparation was curative and justifiable, I turned my attention to its prophylactic influence as regards cervical carcinoma. The literature is meager and contradictory, and afforded me no help.

Not facts but locality regulates the expressed opinion as regards the influence of cervical lacerations in predisposing to cervical carcinoma. American authorities so unanimously agree that local traumatism predisposes to future malignancy that the exceptions but serve to prove the rule. In Europe, especially in England, the statement should be exactly reversed.

Laceration and its sequelæ is, we know, not the sole cause of cervical carcinoma, but as we do not yet know even the nature of the remaining factors, we are greatly handicapped in tracing a relation of cause and effect. I determined to learn whether women having had successful tracheloplastic operations were more exempt from cervical malignancy than other women. To this end and also to learn their views regarding relaceration of the repaired cervix, fifty of our most distinguished gynecologists were addressed. In addition, our resident house surgeon, Dr. Bradley, kindly investigated seventy-eight cervical carcinoma cases treated in the Free Hospital for Women. These two lines of investigation cover an enormous, but obviously unknown, number of cases.

After the most careful search of all available records and literature in not a single instance was a history of a previous tracheloplastic operation found in a car-

cinomatous cervix. Patients contemplating a serious operation on the pelvic organs seldom fail to mention at the very beginning of an anamnesis the fact of a previous operation and few surgeons fail to inquire regarding such. The absence of such history is emphatically significant.

Nearly all specialists addressed responded promptly, a few even writing very instructive letters, and to them all I tender my hearty thanks and appreciation. The following questions were asked:

THE QUESTIONS ASKED OF SPECIALISTS.

1. In what percentage of cases should you estimate that a relaceration of a repaired cervix occurred?

2. What percentage of the total number of cases of cancer of the cervix you have observed should you say had an unrepaired laceration of the cervix?

3. What percentage of the total number of cases of cervical cancer observed by you should you say had undergone previous operations for such lacerations?

The infinite diversity of the answers obtained, defying tabulation, shows that thirty-five years after Emmet's classic paper much need of scientific investigation in this field still exists. The attitude of many of our ablest men also shows that much injury has been done by classing plastic operations as minor surgery. A few admitted the relegation of such cases to their assistants. As a matter of fact, plastic operations require greater technical address than any other. They are less sensational, and to many less interesting than the major operations, but there are many good abdominal surgeons for each good plastic operator.

QUESTION 1.—This elicited answers as follows: Six men express the opinion that no primiparous or repaired cervix ever undergoes the dilatation incident to parturition without at least a slight laceration; the same number state positively that they have never known relaceration to occur after a properly executed operation. Between these extremes are all grades of opinion. Many men of unassailable wisdom and experience answered: "I do not know." Many others stated that they had no data, but that their replies were mere guesses, and, therefore, though fully appreciated, they are useless. From information gathered from all sources, I am convinced that a properly repaired cervix reverts to about the condition of the primiparous cervix as regards laceration. Improper repair may not only predispose to a relaceration worse than the original tear, but like certain unrepaired lacerations, may cause serious dystocia, through containing an excessive amount of cicatricial tissue.

QUESTION 2.—What percentage of cancer cases had unrepaired lacerations? This brought out several replies of: "I do not know." The vast majority estimate them at 75 to 100 per cent. Several obviously confused the question with that of the occurrence of cancer in the nulliparous cervix, and others were stated to be guesses and therefore valueless. Their answers, in connection with my coincident investigation, convince me that at least 90 per cent. of the cases of cervical carcinoma occur in previously lacerated cervixes remaining unrepaired. Laceration is by no means a necessary antecedent, nor must carcinoma necessarily follow laceration. If laceration plays an actual etiologic rôle, it is merely as one of an unknown number of factors.

QUESTION 3.—This question, regarding previous tracheloplasty, achieved the nearest approach to unanimity. Fourteen of the gynecologists declared positively that such operation had not been performed in any case observed by them. Many left the question unanswered

and others, confusing the question with that of cancer in the nulliparous cervix or stating that they were guessing without reliable data, estimated the percentage at from 3 to 25. One man stated definitely that cervical cancer was preceded by a tracheloplasty in 6 cases out of 460.

We all know that carcinoma occurs, whether or not as the result of traumatism, in the nulliparous cervix, and it is inconceivable that any tracheloplastic procedure should render a cervix less susceptible to cancer than one never subject to any traumatism. Therefore, I believe that these answers, in connection with the above-cited results of my investigation of all available cases and literature, at least warrant the conclusion that the properly repaired cervix is no more liable to cancer than the nulliparous cervix, and that tracheloplasty is therefore prophylactic of cervical carcinoma. Granting that the operation is justifiable, when indicated, when should it be done?

There are unquestionably a vast number of cervical lacerations which cause absolutely no symptoms and do no harm and in which operation is, hence, not indicated, except perhaps as concomitant of other plastic vaginal operations. Moreover, although the statement has been challenged, it is a fact that many very considerable lacerations of the cervix heal entirely or nearly so by first intention. It is my firm conviction that the cases which heal primarily are not the result of chance, but heal because kept clean and not too badly bruised. Three cases observed at the out-patient clinic are interesting in this connection. All three showed unmistakable evidence of healed cervical lacerations, all denied a tracheloplasty and all three completed the expulsion of their children before the arrival of their attendants, and no examination was made. These facts would probably never have been elicited but for the enthusiasm of this inquiry.

During the past year I have almost daily been able to demonstrate to my students the scars of more or less perfectly spontaneously healed lacerations. Further, surgeons who also practice obstetrics almost invariably get good results from primary operations on the cervix while general practitioners not surgically trained do not. Why? Because surgeons, as no other accoucheurs, can carry out a thorough aseptic technic. A majority of the cases healed by primary operations would heal spontaneously and I know, as you do, that sepsis, not union, will follow the primary suturing of an unclean cervix.

These facts show that in many instances tracheloplastic operations may never be needed. We know that primarily placed sutures, as Hirst has shown, hang like earrings in the cervix after the subsidence of the edema and so do no good, and these data seem to indicate that the primary operation should be reserved for the control of hemorrhage.

If a primary operation is unnecessary for the above reasons, the same is true of the mediate operation. Moreover, Girvan has shown that traction on the ligamentous supports is more productive of uterine prolapse or retroversion at this time than at any other. While Wilcox has shown that for many days following labor the traction and manipulation incident to tracheloplasty is especially liable to cause embolism, possibly septic, from the placental site. The lochia are also troublesome at this period and mediate repair should be reserved for some special indication.

Having passed the above arbitrary periods definite symptoms certainly traceable to the cervix or local physical evidences should be awaited as an indication for

operation except the patient be anesthetized for other vaginal work.

As regards tracheloplasty for the prophylaxis of carcinoma, a strict adherence to the above indications is all sufficient. Cervical malignancy begins in the cellular element of the cervix, not in the cicatricial tissue unless the cicatrix has caused cellular inclusions, and so long as these cellular elements remain unirritated as the result of the laceration so long the laceration is doing no mischief. Cancer is, so far as we now know, an uncontrolled, erratic cellular overgrowth due to an ultimate unknown cause or causes. I am convinced that it is through the irritation of these cellular elements on the everted, eroded lips, the seat of the so-called ectropion, that laceration predisposes to carcinoma. Hence if this irritation does not exist, the increased liability to cancer does not exist.

As to technic, a pathologic study of sections from the everted and so-called eroded lips of a cervical laceration shows a decided flattening of the superficial structures. The mouths of the glands, while occluded, are also flattened out. The ectropion which might be termed a pseudo-new-growth constitutes a superficial layer over the deeper and less or unaltered structures. The correct operation for trachelorrhaphy should consist not of an indiscriminate chopping out of the angle of the tear and much comparatively sound tissue by scissors, but of a careful and rational excision of pathologic tissue with a sharp scalpel or specially devised knife.

The symptomatic influence of cicatricial tissue in the cervix has been greatly overestimated in some respects and underestimated in others. Aside from exceptional cases long neglected, cicatricial tissue does its greatest harm in limiting subsequent dilatation. Therefore, so that subsequent dilatation may be free, all excisions of material, especially at the angles, should be done with a knife, which leaves far less scar tissue in its wake than does the crushing out of the scissors.

Tracheloplasty, however, embraces a wider field than is covered by Emmet's operation, and includes the various plastic so-called amputations, Schroeder's operation, and such modifications as have been suggested by Newman, Goelet and others.

In the seven cases early referred to as owing subsequent "womb trouble" to possible error in operative technic, they had displacement apparently or possibly, due to too forcible downward traction. All possible plastic operating on the cervix should be done with the patient in Sim's position, thus rendering excessive downward traction unnecessary.

Whenever a repair of the vaginal wall is done at the same sitting, an absorbable suture should be used in the cervix so as to avoid stretching the repaired vagina for the removal of sutures.

CONCLUSIONS.

1. Immediate repair of the cervix is indicated only in exceptional cases aside from the control of hemorrhage.

2. Mediate repair (during continuance of lochia) is contraindicated, except it be in some unusual case.

3. Secondary repair is indicated as soon as symptoms are definitely due to the laceration, such symptoms failing of relief by palliative measures or recurring after apparent palliative cure. Operation should be prompt, not necessarily early.

4. Operations on women past thirty-five give better permanent results than in younger women.

5. Repair of the cervix is indicated as prophylactic of malignancy in a woman approaching the cancer age if the cervix manifests locally evidence of cellular irritation, whether or not causing subjective symptoms.

6. Lacerations in which operation is not indicated should be kept under close observation as the cancer age approaches.

7. Obstetricians are obviously unable to avoid lacerations of the cervix in many cases, but if the above deductions are correct a far more strict asepsis will, by favoring spontaneous primary union of such lacerations, do much toward lessening the number of secondary tracheloplastic operations.

158 Newberry Street.

DISCUSSION.

DR. G. BETTON MASSEY, Philadelphia—This paper represents the methods of investigation that we should apply before forming conclusions. My own conclusions have been necessarily derived from seeing the failures only, and I have seen a great many after late operations. Not being an operator the large number of successes that the Doctor has found in his surgery were not known to me. These failures after the secondary operations were of two kinds: One was failure to remove nervous symptoms. Those cases were very numerous, particularly some years ago when the belief prevailed that all sorts of nervous manifestations in women were due to the existence of a healed scar in the cervix. These healed scars were taken out in many cases, but the patients were not improved. The second class of failures were due to the lack of proper treatment preceding the operative attempts. These patients were really suffering from uterine trouble, but it was a chronic metritis. The scar, which had probably admitted the germs originally, had long ceased to trouble the patient, as was proven by its healing. The subsequent symptoms were due to the enlarged and inflamed uterus, and a failure to cure this before operation probably explains some of the 11 per cent. of cases that were reported as failures. It teaches us that intelligent prior treatment should be exercised in all cases to remove the real seat of suffering, the chronic metritis and endometritis. I conducted a clinic in gynecology for a number of years. Connected with the same hospital were a number of active operators. During the whole time of my clinical work I was anxious to refer as many cases for surgical operation as I could find. Particularly was I looking for laceration cases—cases that in my opinion presented symptoms due to laceration. In the whole time I found but one case that had symptoms due to laceration and not to a metritis. The symptoms were in the nature of miscarriages at a definite period of gestation. The interior of the uterus was normal; there was no leucorrhea, but the uterus was split from the os half way to the fundus. As the patient was anxious to have children I strongly advised an operation. Having absolutely no symptoms from this deep laceration but the miscarriages she failed to take my advice. I want to emphasize the fact that we are looking here at a healed cervix as the cause of symptoms which are either due to the neurasthenic condition of the patient or to an enlarged and inflamed uterus.

DR. RUDOLPH W. HOLMES, Chicago—Every woman who gives birth to a child at or near term has a laceration. One of the most positive diagnostic signs of a previous pregnancy is that the os is no longer circular, but is generally a transverse slit. We must consider that a laceration is physiologic because every woman has it. We can call it pathologic only when a train of symptoms is produced. Women may have a laceration extending to the vaginal vault and it will be physiologic unless pathologic conditions are caused by it. I would like to ask what are the symptoms of a laceration. I have never heard of them and I do not believe that they exist. The symptoms are not those of laceration, but symptoms of the conditions produced by the laceration, such as sepsis or relaxation of the pelvic floor, which commonly accompanies the cervical laceration. From the obstetric standpoint I condemn

the promiscuous repair of lacerations of the cervix. No laceration should be repaired unless there are symptoms of the sequelæ of the laceration and when tentative measures fail. I can not recall one case of obstetrics in which a previous trachelorrhaphy had been done where there were not anomalies in the dilatation. As opening of the os occurred it invariably took place, not from dilatation alone, but with concomitant laceration. The most severe cervical lacerations with the accompanying hemorrhages that I have ever seen in my practice have been in cases where a trachelorrhaphy was done subsequent to a previous labor. Of course, we can predict that a woman who has an immense amount of cicatricial tissue in the torn cervix will have an extension of the laceration in her subsequent labor. Furthermore, in taking up the statement that carcinoma is more frequent in parous women because they have had cervical lacerations, and that the repair of lacerations will serve as a prophylactic measure, seems to me to present a great deal of sophistry; this assertion can only be conclusively demonstrated when a large series of cases of carcinoma are taken, and those who have not had trachelorrhaphies are compared with those who have had the operation. Further, I believe desirable results will be obtained for a working hypothesis if all the non-parous women who die after thirty years of age are compared with the parous in the same period of life; 90 to 95 per cent. of all malignant growths of the cervix are in parous women. Is this far from the percentage of parous women in relation to the non-parous at the time when cancer is prone to occur? Lacerations often heal spontaneously if no infection occurs to retard the reparative process. In some instances it is well-nigh impossible to tell if there had been a laceration because the union is so perfect; that is, there is a mere nicking on one or both sides of the external os; if these cases had been examined immediately after labor a considerable degree of laceration would have been demonstrable. I have verified this statement on a number of occasions, for I always examine the parturient canal after operative labors to ascertain the damages done, and again an examination is made at the end of two months. The reason why lacerations are generally found laterally is not explained alone by the fact that tears almost invariably occur there; tears very frequently are in other quadrants of the cervix; in the latter cases the opposing bladder and rectum act as a sort of splint; in the former this splint action is of no avail, and the movements of the uterus with the respiratory excursions prohibit primary union.

DR. A. M. HAYDEN, Evansville, Ind.—We have lacerations that require repairing, and some that do not. If we have a laceration heal, with an inflamed cicatricial scar, that should come out. Endometritis is often directly due to that, and by removal of the scar the endometritis is cured. If we have a laceration that has healed with no inflammation, no endometritis, then, no matter how deep the laceration, there is no indication for an operation. That patient will bear children as well as if she had no laceration. But we find many cases that have nervous symptoms and pain in the pelvis, and we find a laceration that never healed, with endometritis; then we should operate. The patient promptly gets well; the endometritis subsides without further treatment, and there are no further symptoms. Those cases all require operation. I have had many cases of carcinoma of the cervix and I have yet the first case to see where the carcinoma did not follow a laceration of the cervix.

DR. C. S. BACON, Chicago—The attempt of Dr. Craig to get definite data on this question of operation is to be commended, but I do not believe he has secured enough data to justify his conclusions. In the main I believe that most obstetricians would agree with Dr. Holmes. I will agree with Dr. Craig concerning the immediate repair of a laceration if he will make one addition to his conclusion, viz.: That immediate repair is important when there is a deep laceration extending up into the musculature of the uterus for some distance after a severe obstetric operation. It is well known that rupture of the uterus is much more common in cases where there has been a rather serious injury of that kind, and in those cases there should be a careful restoration by suture.

Dr. F. A. DUNSMOOR, Minneapolis—Physicians criticise these operations because they hear stories of trouble from the failures, from the ones who suffer pain. The cured patient does not go to every dispensary and physician she knows and tell him that she was operated on and benefited. The patients who go around to the dispensaries, hospitals, etc., are rounders, who are never satisfied. They always criticise the surgeon because he failed to cure them of all their ills. This is the reason we hear so much about the failure of operations, and so little of the successes. Let us announce the results of the operations in patients who have been cured. Dr. Holmes does not believe that a laceration *per se* is a cause of cancer. I differ with him. I have operated on more than a hundred women for cancer of the uterus and all had borne children. Take into consideration the number of women who bear children and have a laceration, and those who bear children but do not have a laceration, and it is the non-repaired laceration which is productive of cancer. I have never yet had the opportunity to operate on a sterile woman for cancer of the uterus, although others claim they have. This repair operation is prophylactic for many conditions not cancerous. Women with deep lacerations of the cervix are predisposed to prolapse, endometritis and dragging pain associated with rectocele and cystocele, and early repair prevents the sequence. As to the diagnosis of laceration, Dr. Holmes says it can not be made except through the speculum. I differ with him again. I can certainly make a diagnosis much better with the point of my finger than by inspection. Often the eye says it does not look like a pathologic condition, but the tactile sense discovers it. I had an interview with Dr. Emmet about ten years ago, and at that time he reported two troubles. One was his renal colic, and the second was from people who thought they made an Emmet operation, when really they did something far different from his conception of it. He said he was often sorry that he ever described that operation because it had been abused so much. It is the experienced operator to whom we turn for counsel in this matter, and I am sure that all lacerations of sufficient extent to be shown by examination through eye or touch as a possible seat for future disturbance should be repaired at first opportunity.

Dr. D. H. CRAIG—Had I trespassed on your time sufficiently to read the remainder of my paper some of the criticisms brought out in the discussion would have been answered. As regards scars in the cervix, there is one important question in the technic of the operation. When the denudation or removal of the diseased tissue is made with scissors you leave behind more scar tissue than necessary. I believe that it is important that we remove this pathologic tissue, not by scissors, but by the knife, whether specially devised or the ordinary scalpel, so that we can have accurate coaptation and leave a minimum amount of scar tissue in the cervix. Remove it as you would any new growth; not by indiscriminate cutting out of healthy tissue through a circular sweep of the scissors. The symptoms of laceration were considered at length in my paper. I consider the symptoms of a laceration of the cervix sufficient justification for an operation when other causes of the symptoms have been ruled out by proper previous treatment. I do not mean that cervixes should be indiscriminately operated on, but we should select our cases and also the procedure which must be adapted to the individual case. No one operation will answer for all cases.

The successful physician is usually the man who attends strictly to his own business, and refrains from intruding into the affairs of others; who speaks kindly of his fellow practitioner, whether he deserves it or not; who is studious and observant, and profits by his own and the experience of others; who is full of good cheer, and is competent to give wholesome advice. If all physicians belonged to this school the medical profession would be a mighty power, capable of engineering mighty plans for the good of the people, united and respected, free from unjust criticism, and possessed of more than a "common mind."—*Northwestern Lancet*.

ACUTE GENERAL STAPHYLOCOCCUS INFECTION THROUGH THE PUERPERAL BREAST.*

W. P. MANTON, M.D.
DETROIT.

One of the most important functions devolving on the accoucheur is the management of the nursing breast, a responsibility too often shirked, either from indifference, carelessness or ignorance of the physiologic processes involved—a deviation from which may give rise to great physical suffering and lead to disastrous consequences.

It is now universally conceded that all of the more serious disorders of the functioning mammary gland are the result of microbic invasion, the morbidic germs gaining entrance to the lobes and interglandular connective tissue either through the ducts, more rarely, or generally through cracks and abrasions of the nipples and surrounding areolæ. Septic material may readily be conveyed by the hands of the patient or an untidy nurse to the wounded surfaces, while the increased vascularity of the breasts and their augmented lymphatic circulation during the inauguration of the secretory function render these glands peculiarly susceptible to the influence of the materies morbi. Moreover, the researches of Honigsmann, Ringel and Kostlin¹ have shown that normal human milk contains both varieties of the staphylococcus, while Escherich maintains that pathogenic germs which have gained entrance to the blood from diseased puerperal organs are excreted by the breasts in the milk—additional evidence as to the necessity for the closest surveillance of the breasts during the whole of the lactational period, and especially during the early stages of beginning glandular activity.

While much may still be said and written regarding cleanliness, asepsis and the general care of the healthy and disordered mammary glands during lactation, it is not my purpose to review these phases of the subject, the sole object of this short paper being to direct attention to a single method of treatment much advocated and in vogue, but which, if misdirected, is capable of producing most serious complications. Take up any of the latest text-books on obstetrics and turn to the chapter on the puerperal breast and you will find that, with one exception (Garrigues), massage is recommended in the treatment of mammary engorgement and beginning mastitis. But nowhere will you find a warning word against the possible dangers which may arise from this practice.

The following case illustrates my meaning:

Mrs. T., primipara, aged 18, white, married and a native of Canada, was delivered at the Woman's Hospital by low forceps after a somewhat tedious labor, March 28, 1902. The male child weighed eight pounds. The placenta was expressed twenty minutes after the delivery of the child, and was of unusual size, weighing two pounds and thirteen ounces. The cord was twenty-four inches long and had varicose vessels. There were no maternal lacerations.

Two days later (30th) the patient complained of sore nipples, but the temperature and pulse remained practically normal. On the evening of the third day the temperature suddenly rose to 102.4 and the pulse to 104. There was no chill and the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. The latter found micro-organisms, generally staphylococci, in the milk of 91 per cent. of puerperæ. *Archiv für Gynäkologie*, Bd. lxxx, 112.

patient appeared in good condition, save that the breasts were tumefied and painful from beginning lactation.

April 1. The temperature was still high and the breasts hard and knotted. Massage with warm olive oil was given in the forenoon and again in the afternoon, and the breast bandage applied.

April 4. The temperature being still much elevated, higher than the condition of the breasts appeared to account for, a careful pelvic examination was made with negative result as to abnormal conditions. A culture taken from the cervical canal at this time was reported by Mr. Tibballs, bacteriologist to the Detroit Board of Health, to be free from pathogenic organisms. The breasts were still sore and painful and massage was continued twice a day, as is customary in such cases in this institution.

April 8. The chart records that the breasts were massaged at 7 and 10 a. m., and again at 4 and 7 p. m. A second culture taken from the cervix was found to contain a few staphylococci and micrococci. As it was evident that the breast massage was being executed in too vigorous a manner it was ordered discontinued. On the following day the patient complained of pain in the left thorax and side.

April 9. An examination of the blood by Dr. Heneage Gibbs showed the absence of micro-organisms. There was slight leucocytosis with polymorphonuclear cells in excess. The blood platelets were disintegrating and did not take the stain in a normal manner.

April 10. The patient had a very offensive, free, watery stool, containing particles of undigested milk. A cough also developed which gave rise to considerable distress, and it was feared that septic pneumonia might be developing, but careful examination showed the lungs to be unaffected.

Fluctuation was for the first time detected in the right mammary gland, and a large parenchymatous abscess was evacuated under chloroform. The pus examined by Dr. Gibbs was reported as follows: "This pus is made up of broken-down material and contains large numbers of staphylococci. There are also a few tetrads. The micro-organisms take the stain faintly and are not in an active condition."

April 19. An abscess appeared in the left breast and was evacuated by incision. A red spot was also discovered near the middle of the patient's back. This subsequently gathered and discharged for several days.

April 23. A second abscess developed in the left breast and one in the right arm.

May 4. An abscess appeared in the right buttock.

May 8. The patient sat up for the first time, the abscess still discharging but gradually healing.

May 27. Another abscess developed in the left breast.

From this time on no new abscesses were formed; the temperature and pulse gradually returned to the normal, and the patient left the hospital well, but still weak from her serious illness, June 5, seventy days from the date of her confinement.

At the beginning of the infection there was more or less gastric irritability and on several occasions vomiting, but as a rule the stomach remained in good condition and the patient took a fair amount of nourishment. Almost from the first the nervous symptoms were pronounced and delirium occurred on the fourteenth day. The patient became noisy and hallucinations of sight and hearing developed. These manifestations persisted more or less for several days. The general condition varied from day to day; the temperature ran an erratic course, fluctuating from normal to 105.6, the highest point reached during the course of the disorder. The pulse rate varied between 76 and 126. The child did poorly from the first, and died on the twelfth day of inanition.

Acute general staphylococcus infection through the puerperal breast is a rare affection, and the case reported is the only one of the kind which I have met in an experience of several thousand midwifery cases. In a fairly careful scrutiny of the literature of the past ten years, I have been able to find but one other somewhat similar instance reported, and in this the pathogenic organisms were streptococci.²

But however uncommon the condition may be, the case just related stands as a vigorous protest against the indiscriminate employment of massage in mammary engorgement during the early days of the puerperium. Distension and turgescence of the nursing breast can be better and more safely treated by other means, and the dangers of traumatism to the congested and often exquisitely sensitive organs and the formation of mammary abscess together with the possibility of septic infection may thus be obviated.

DISCUSSION.

DR. CHAS. S. BACON, Chicago—Infection of the breast with staphylococci or streptococci certainly is not very rare; nor is a general infection from that source rare. Massage of the puerperal breast is a subject I have talked and written about for the last four or five years, but I do not seem to make much impression. We should distinguish between turgescence or congestion of the breast at the beginning of lactation and infection, but usually that is not done. Very often a large, swollen, overfilled breast is called an inflammation. On the other hand, in the inflamed breast the infection often is not recognized unless the symptoms are very distinctive. The place for massage is the non-infected breast; I would not dare to use it in an infected breast. When there is fever or other symptoms of infection massage is absolutely contraindicated. There support and ice are indicated until the presence of the abscess is determined. When the breast is full and swollen at the beginning of lactation it does not mean that the breast is full of milk; it is an overfilling of the blood vessels. I can make the breast soft and small and not evacuate more than a drop of milk, but the massage must be carried out in accordance with the ordinary principles of massage, and these are not ordinarily taught. You have all seen pictures where massage is done by rubbing toward the nipple. That is absolutely false. The object of massage is not to evacuate the milk, but to empty the overfilled blood vessels and lymphatics. In a congested knee joint you do not rub toward the knee; on the contrary, you rub away from the knee, first emptying the blood vessels before you approach the tender joint. You must begin outside of the breast and empty the vessels leading to the axilla and the subclavian veins and lymphatics. That can be accomplished without pain to the patient. The criterion whether massage is done properly is when the operation is not painful. The manipulator must sit in a convenient position; have sterile hands, place his patient in proper position, and begin outside of the breast, gradually coming nearer and nearer to the nipple as he empties the vessels. In fifteen to twenty minutes the breast is small and soft. How many cases need that massage? Not very many. Nor is it absolutely necessary in any case, because overdilatation of the breast is never a serious matter. But a nervous patient who is weak, who has suffered a hard confinement and has this very tender breast, may lose many hours of sleep and rest; if that can be prevented it should be done. One or two such treatments will usually suffice to give relief.

DR. EFFA V. DAVIS, Chicago—For many years I have had a great fear of massage of the breast and also the use of the breast pump. Staphylococci as a cause of infection in the breast is interesting. All of the open glands on the skin surface are likely to be contaminated, and I believe the massage in this case produced the abscess. Infection of any part of the body, the pelvis or elsewhere, is likely to affect the mammary gland as the turgescence offers a good lodging place for bacteria. I warn my patients and nurses to let the breast alone. A bandage is applied smoothly and evenly on the evening of the second day; this minimal pressure reduces the turgescence somewhat and the child is put to the breast on the first day after delivery. If one uses a bandage properly adjusted instead of the rubbing process the natural turgescence will not be troublesome.

DR. RUDOLPH W. HOLMES, Chicago—Dr. Bacon has done a great thing for the profession in exposing that nonsensical massage so commonly recommended in obstetric text-books; he

did a far greater good when he described a method of massage for the breast which was based on sound anatomic reasons. Massage should not be done indiscriminately; it should only be done on an engorged, tender breast. It is almost criminal to continue the manipulations when inflammation has occurred. Then, too, I think the nipple should be better prepared, not by using hardening solution, such as alum, which I believe tends to promote fissures, but by using an oily preparation, such as cacao butter impregnated with some mild, innocuous antiseptic like boric acid. These two suggestions, Bacon's massage and preparation of the nipple, will go a long way toward preventing such complications as were described by Dr. Manton; massage will often disseminate a local process into a systemic disease. Further, a well applied binder is a useful adjunct. I do not believe that staphylococcal infection of the breast is so infrequent; this presumption is based on the myriads of these germs normally found in the skin. Undoubtedly it is more rare to have a systemic infection originating from a mammary contamination. The question naturally arises if the massage in the early part of the treatment might not have been a factor in the later course of the disease.

DR. W. P. MANTON—I do not believe that general staphylococcal infection is uncommon, but I can not find any record of cases.

THE MORPHOLOGY AND BIOLOGY OF THE PARASITE FROM A CASE OF SYSTEMIC BLASTOMYCOSIS.*

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The observations recorded in this paper were made on the parasites obtained in the tissue and by artificial culture from the case of fatal systemic blastomycosis reported by Ormsby and Miller.¹ We wish here to acknowledge their assistance in the work done and kindness in allowing us to use the material from their case.

In May, 1894, Gilchrist² described in tissues from a skin lesion the spherical, double-contoured, budding microorganisms which have since been observed in about thirty-five reported cases. In this case cultures were not made and little was known of the biology or nature of the parasite. In November of the same year Busse³ reported a case of systemic infection resulting fatally in which a similar parasite was described as the etiologic factor. Cultures were made from this case and the organisms extensively studied by Buschke.⁴ In culture the organism grew by budding, and mycelial formations were also seen.

The cases reported have had lesions for the most part confined to the cutaneous surface. A few cases of systemic infection, however, have been observed. The cases have largely occurred in the United States. The largest

number have been observed in and about Chicago. The cutaneous lesions have characteristics which show such uniformity that they may be distinguished often by their gross appearance. The microscopic findings are similar in all cases, and the presence of the typical organisms in the tissue, or pus of milary abscesses, is pathognomonic. The cases of systemic infection, as far as we can determine, which seem to have definite confirmation, are four: First, the case of Busse and Buschke; second, a case reported by Montgomery and Ricketts,⁵ and later by Walker and Montgomery;⁶ third, one reported by Ophüls and Moffit⁷ (San Francisco), identical with those cases which have heretofore been called a protozoan infection, but which was proved by him to grow as a typical fungus in artificial media; and lastly, the case of Ormsby and Miller,¹ in Chicago, from which our material was obtained. All of these systemic cases have resulted fatally.

There is much uniformity in the morphology of the organism, as found in the tissues and purulent exudate, in all these cases, both cutaneous and systemic. They are spherical or oval, double-contoured, with very refractive cell capsule, increase by budding, and, in the Ophüls' case by sporulation, which has not been definitely proved in any other case. No mycelia are found in the tissues or pus. The size varies within wide limits in different cases, parasites from three to thirty microns in diameter being seen. The cultural characteristics of the organisms from different cases show marked variations, in some cases multiplying by budding exclusively, in others growing mycelia principally, and in others abundant aerial hyphae are produced. Hektoen⁸ describes very minute forms which, under proper conditions, develop into the larger form. And, further, some of the organisms, if watched for some time through a number of generations of growth, completely change in their characteristics on artificial media, multiplying at one time by gemmation, and afterward forming mycelia, or vice versa. We may thus say that in its growth and cultures, polymorphism is manifested to a striking degree. Hektoen made a careful study of the parasites from a case of blastomycetic dermatitis.⁸ He describes the appearance of the different forms of the organism as seen in the tissues; some with a clear zone surrounding the protoplasm inside the capsule, others in which this is inconspicuous; some with large vacuoles in the protoplasm, others with dense, granular protoplasm without vacuoles. He also describes mulberry-like masses of hyaline bodies in the tissues, both intracellular and extracellular. The cultural forms varied much in size, a small, coccus-like form being described.

Gilchrist⁹ makes extensive observation on the morphology and biology of the parasite. The process of budding, as it occurs in the tissue, is accurately followed. The endosporium, or protoplasm, of the bud increases to almost the size of the parent, and then becomes separated. He also notes peculiarly refractive forms which will not take the stain. Other forms, in

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Ormsby, O. S., and Miller, H. M.: Report of a Case of Systemic Blastomycosis with Multiple Cutaneous and Subcutaneous Lesions, *Jour. Cutan. Dis.*, March, 1903.

2. Gilchrist, T. C.: Communication to the American Dermatological Association, May 30, 1894.

3. Busse, Otto: Ueber Parasitäre Zelleinschlüsse und Ihre Zuchtung, *Centralbl. f. Bakt. und Parasitenk.*, 1894, xvi, 175; also, *Ueber Saccharomycosis Hominis*, *Virchow's Archiv*, 1895, cxl, 23; also, *Experim. Untersuch. Ueber Saccharomycosis*, *Virchow's Archiv*, 1896, cxliv, 360; also, *Die Hefen als Krankheitserreger*, Berlin, 1897.

4. Buschke, A.: Ueber Hefenmykosen bei Menschen und Thieren, *Volkmann's Samml. Klin. Vorträge*, 1898, No. 218; also, *Ueber Hautblastomycose*, *Verhandl. der Deutschen Dermatologischen Gesellschaft*, Sechster Congress, 1899, 181.

5. Montgomery, F. H., and Ricketts, H. T.: Three Cases of Blastomycetic Infection of the Skin; One Case Limited to "Tumor" of the Lower Lip, *Journal Cutan. and Genitourinary Diseases*, January, 1901.

6. Walker, J. W., and Montgomery, F. H.: Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces; Death; Autopsy. *THE JOURNAL A. M. A.*, April, 5, 1902.

7. Ophüls, W., and Moffit, H. C.: A New Pathogenic Mould, *Phila. Med. Jour.*, June 30, 1900.

8. Hektoen, L.: The Organism in a Case of Blastomycetic Dermatitis, *Jour. Exper. Med.*, vol. iv, 1899.

9. Gilchrist, T. C., and Stokes, W. R.: A Case of Pseudo-Lupus Vulgaris Caused by a Blastomyces, *Jour. Exper. Med.*, vol. III, No. 1, 1898.

which the protoplasm has contracted into a half-moon shape are described. The adult forms in cultures show in the protoplasm fine, deeply-staining granules, larger refractive granules, and often one or more vacuoles.

Ricketts¹⁰ has collected and tabulated observations concerning the morphologic, biologic and cultural characteristics of the organisms from a number of cases (seventeen), from which table he concludes that there are three more or less distinct groups of organisms having common generic characteristics. Montgomery¹¹ gives a very careful description of the clinical, pathologic and bacteriologic features from thirteen recorded cases.

DESCRIPTION OF CASE.

The clinical history and discussion of the present case have already been reported by Ormsby and Miller,¹ accompanied by a brief description of the microscopic and gross pathology of the tissues affected, and also a short study of the cultural characteristics of the organism by the present observers. The history indicated that the primary infection was located in the pulmonary tissue, followed by the cutaneous and subcutaneous lesions. Practically all the cutaneous lesions were of such a nature as to indicate the hemal origin of the infection, the superficial tissues being affected only after the process progressed from the deeper tissues. One lesion only, on the hand, had the characteristics described in the lesions of blastomycetic dermatitis of local origin. Of the internal organs, the lungs were most extensively involved; grayish nodules of varying size, and in enormous numbers, being distinguished in all parts of the tissue of both lungs. The pleuræ were extensively affected, and adhesions and whitish nodules of varying size were present in all portions. The lesions in the spleen were almost as extensive as in the lung. The nodules composed of typical organisms were found also in the liver, kidneys, pancreas, trachea and larynx. (This is apparently the first case in which involvement of a mucous membrane proper has been described.) The teased specimens in hanging drop from the different organs gave abundant opportunity for studying the living parasites as they occurred in the lesions. The stained sections from the lung tissue, especially, show parasites in immense numbers.

MICROSCOPIC APPEARANCE OF TISSUES.

Lung.—The slight degree of inflammatory reaction is noteworthy, the lesions being composed almost entirely of the parasites. There is some newly-formed connective tissue containing small round cells, polynuclear leucocytes and many mast cells, the protoplasmic granules of which stain red with polychrome methylene blue. There is some coagulation necrosis, areas of caseation appearing mostly at the center of the nodules. In the areas where the parasites are very abundant the elastic tissue has entirely disappeared, as indicated by staining with orcein. The epithelial cells which are remaining in the lung are largely detached, and are remarkable for the amount of brownish pigment granules which they contain. Similar deposits of pigment are found in many other cells, especially the polynuclear leucocytes of the blood.

The giant cells in the lung tissue are remarkable for their number and size. They vary from twenty microns to many times that diameter. They all contain parasites in different stages of development, and the larger ones

are crowded with them, the cell nuclei being few and indistinct, while in the smaller giant cells the cell nuclei are numerous and prominent. The peripheral arrangement of the nuclei seen in the tubercular process is not followed, but many of the nuclei are near the center of the cell body.

Spleen.—The splenic tissue is riddled by the growth of the typical organisms, showing grossly as yellowish-white areas and nodules. Microscopically, the parasites are seen scattered widely throughout the tissue, but not in such large masses as in the lung tissue. The splenic pulp contains much brown pigment.

The lesions of the kidney, liver and pancreas are smaller and less numerous, often escaping naked eye examination. The immense numbers of parasites and small amount of newly-formed connective tissue are the principal characteristics of these lesions. In and about them are always seen typical mast cells.

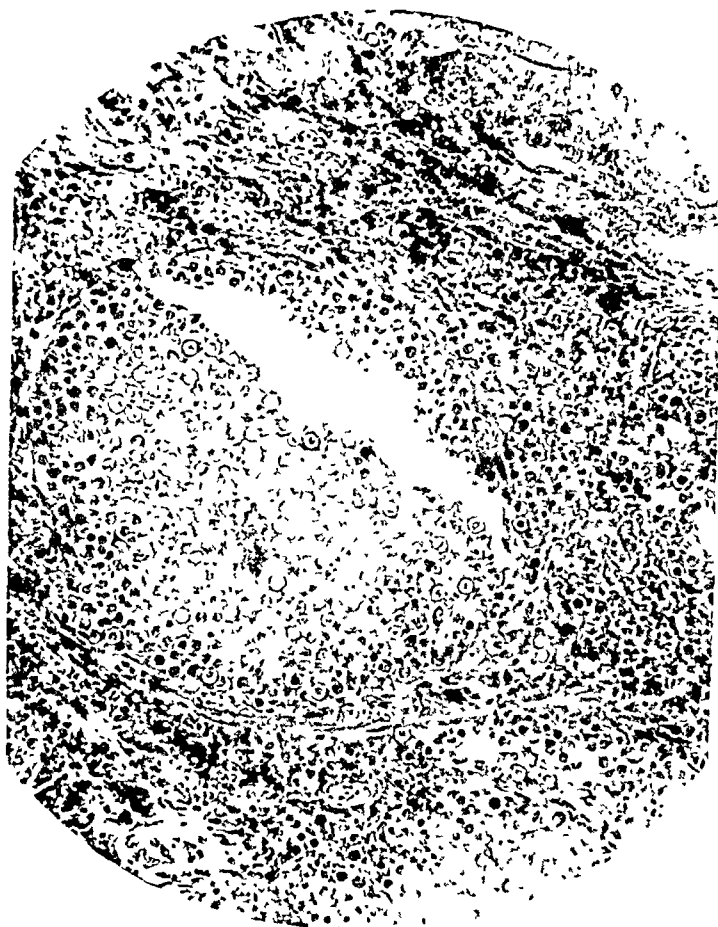


Fig 1.—Nodule of blastomycetes in lung tissue. Center showing old, poorly staining organisms, and periphery showing young, deeply-staining organisms

Lymph Nodes.—The peribronchial lymph nodes were markedly enlarged, and contained large amounts of black pigment, apparently carbon. On microscopic examination we were unable to demonstrate the presence of any parasite in the tissues; however, in one section parasites were seen in the blood stream of one of the vessels.

MORPHOLOGY OF PARASITES IN THE TISSUES.

The stained sections of lung tissue offer excellent opportunity for a study of the parasites in different stages of their development. There are seen large, rounded masses of parasites under the microscope (Fig. 1), at the center of which the organisms are all of large size, take very little stain, show few buds, and many contain large vacuoles, occupying almost the entire cell. These are evidently old cells which are degenerating and disintegrating, as indicated by the granular detritus

10. Ricketts, H. T.: *Oldiomycosis (Blastomycosis) of the Skin and Its Fungi*, Jour. Med. Research, vol. vi, No. 3.

11. Montgomery, F. H.: *A Brief Summary of the Clinical, Pathologic and Bacteriologic Features of Cutaneous Blastomycosis*, THE JOURNAL A. M. A., 1902.

among them. At the periphery of these areas the organisms differ much from those at the center. The cells are of various sizes, have deeply-staining protoplasm and are undergoing cell division actively. These areas, therefore, give excellent opportunity for the study of the life history of the parasite in the tissue.

The most satisfactory stain which we have found for studying the structure of the yeast-like organism is the polychrome methylene blue stain, applied according to Unna's method. Other stains used are hematoxylin and eosin, methylene blue and eosin, Gram's stain, Van Gieson's method, carbol fuchsin and orcein.

The typical parasites are of various sizes, measuring from five to fifteen microns in diameter. They all have a definite, refractive capsule, which takes most stains sparingly, usually less than one micron in thickness. The capsule stains best by methylene blue and eosin. Within the capsule the structure has so many variations as to be almost picturesque in the variety of forms seen. Many of the cells have a wide, clear zone within the capsule and surrounding the protoplasm.

In the natural order of growth of any organism, one expects to find a certain definite order of development, and it has been our effort by careful study of the various

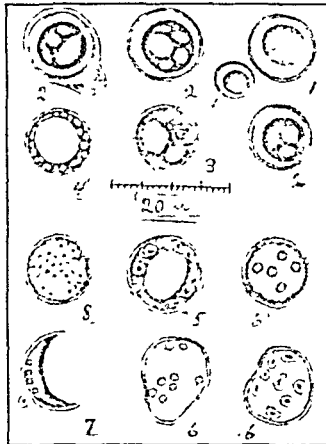


Fig. 2.—Diagrammatic representations of adult forms of parasite showing different stages of development. (Made from drawings.) 1. Young forms, dense protoplasm, wide clear zone. 2. Protoplasm vacuolated; one enclosed by tissue cell. 3. Protoplasm fills capsule. 4. Contains one large vacuole. 5 and 6. Contain spore-like bodies. 7. Collapsed form; one extracellular spore-like body. 8. No vacuole; protoplasm transformed into spore-like bodies.

forms to determine the characteristics of the cells at the different stages of their development. We see, then (Fig. 2), in all forms a capsule protoplasm of varying structure and staining properties; in many the clear space between the capsule and protoplasm, and many contain one or more vacuoles of various sizes. Budding forms are numerous, and cells of almost all types of structure are seen undergoing this form of multiplication; but the budding process is most active in cells of a certain type—those in which the protoplasm is dense, deeply staining and relatively small in amount, being surrounded by a wide, clear zone. These are of medium or small size generally, and are evidently relatively young and actively growing forms. We can distinguish, then, the following types:

1. Cells which are small in size, from five to ten microns usually, having a relatively small mass of deeply-staining protoplasm, surrounded by a wide, clear zone inside the capsule. The mass of chromatic substance is spherical, except in those which are undergoing the budding process, is centrally or excentrally located,

is finely granular or homogeneous, but very deeply stained. Many of these are budding.

2. Forms similar to the first, but slightly larger on an average, the deeply staining protoplasm being more coarsely granular and containing clear, rounded spaces, which are evidently vacuoles, of varying size and number. The protoplasm occupies a larger area in the cell, the clear zone being narrower than in the preceding form. Many of these are undergoing the budding process.

3. Forms similar in size to the preceding, protoplasm staining well, granules large, a few large vacuoles being present, all of the space occupied by the protoplasm, the clear zone being obliterated or inconspicuous.

The preceding forms are found especially at the periphery of the circular masses of parasites described in the lung tissue, and are evidently younger and growing forms, actively dividing.

4. Large cells in which the protoplasm fills the capsule and contains a single, very large, spherical vacuole, centrally or peripherally located. The protoplasm thus appears as a ring of granular material, does not take a deep stain, and some small, circular, hyaline areas are seen in it. These forms are seen mostly at the center of the masses of parasites.

5. Large forms with very large central vacuole, a thin layer of protoplasm which has undergone division into spore-like bodies, which have the appearance shown in the figure. These bodies are about one micron in diameter, appear to have a central clear space surrounded by a ring of chromatic substance of irregular thickness, the chromatic substance often being accumulated at one portion of the ring, at other times appearing as two masses on opposite sides of the ring. These spore-like bodies are seen to be only at the periphery of the cell capsule. These forms of cells are found only at the center of the masses of parasites.

6. Similar cells in every respect, except that they are collapsed, the fluid contents of the vacuole having been evacuated. These forms are evidently derived from those described in paragraph No. 5. Very few of those cells with refractive contents have undergone any such change.

7. Another distinctive form appears in which the protoplasm contains no large vacuole whatever, but as they develop the protoplasm divides into from ten to fifteen small hyaline bodies, in many of which is seen a central densely staining body. Similar bodies to these are also seen outside the capsule.

Other variations in the structure of the cells may be seen—some with refractive contents which does not take the stains; others are seen in small numbers in which the protoplasm is completely obscured by a mass of brown pigment. The presence of these forms is possibly an explanation of the origin of the pigment granules described in the tissue cells, and in the leucocytes of the blood. With polychrome methylene blue stain a great many of the organisms contain in their protoplasm basophilic granules staining red. These have been described by Gilchrist and others. There is a remarkable variation in the affinity which different organisms have for the stains, cells lying side by side, and apparently of the same structure, show an entirely different reaction to the stain. Several observers have described adventitious capsules. We have not observed a similar condition, but often individual parasites are seen within the protoplasm of the tissue cells, which is stretched about it and so attenuated as to resemble a capsule.

SPORE FORMATION.

Multiplication of the organism by budding is the usual method within living tissue, and by budding and mycelial and conidial formation in the culture, but the production of endospores and propagation by their development is still a matter of doubt. In the case under consideration the findings in the tissue seemed to indicate the presence of spore formation, and we will endeavor to describe this process here (Fig. 3). These forms occur for the most part in the centers of the masses of parasites where all the organisms are of advanced age, and many are disintegrating. Most of the cells in question contain large central vacuoles, the protoplasm being pushed to the periphery, appearing as a ring just within the capsule. This ring of protoplasm has undergone division into bodies which are small (about one micron in diameter), and are composed of an outer ring of chromatic material and a hyaline center (Fig. 4). These bodies have already been described in a preceding paragraph. These spore-like bodies are seen by careful focusing to be situated at the periphery and not at the center of the cells, the center being occupied by a large vacuole. They number from eight to twelve in a capsule. Exactly identical forms are seen as ex-

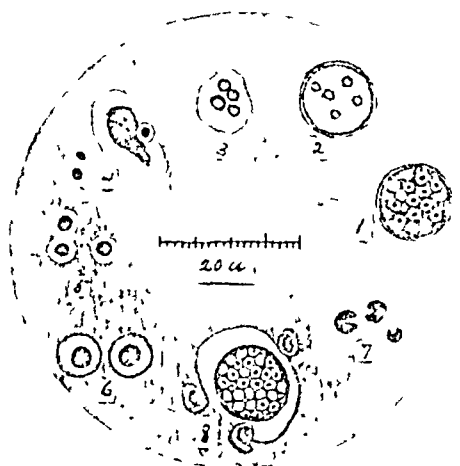


Fig. 3—Sporulating forms and developing spores. 1 and 2. Adult forms containing spores. 3 and 4. Extracellular spore bodies; one at 4 is situated in protoplasm of tissue cell. 5 and 6. Developing spores. 7. Crescentic forms of developing spores. 8. Organism from guinea-pig's kidney, sporulating.

tracellular bodies, and other larger forms which have a crescentic shape and have evidently been formed by the development of these ring-like bodies, the chromatic substance increasing on one side and the hyaline center becoming eccentric, thus producing the appearance of a crescent. Further, there are found in these old capsules just described other small forms having a solid chromatic center surrounded by a hyaline area, and similar to the bodies appearing in the cells which we will now describe.

There are certain cells which we have already mentioned which do not contain vacuoles, at least have no large central vacuole. In their later stages the protoplasm of these forms breaks up into small rounded hyaline bodies, many of which are seen to have a densely stained spherical center. Bodies exactly resembling these are seen outside the cells, and others, which are larger, one to three microns in diameter, and having about them the hyaline zone, but no distinct capsule as seen in the adult form. Some of these forms have been noted within tissue cells, and these tissue cells with their contained spore bodies are probably the beginning of the giant cells. As soon as these developing spores reach a size of about four or five microns a capsule is seen surrounding the clear zone. It was

noticed that the parasites which are in the younger and smaller giant cells are mostly the smaller forms, while the older and larger giant cells contain older developmental forms of the parasites. It seems probable that the large rounded masses of parasites described in the pulmonary tissue are the result of further development of the giant cells.

The sporulating forms described here differ radically in the number of spore bodies formed within one capsule

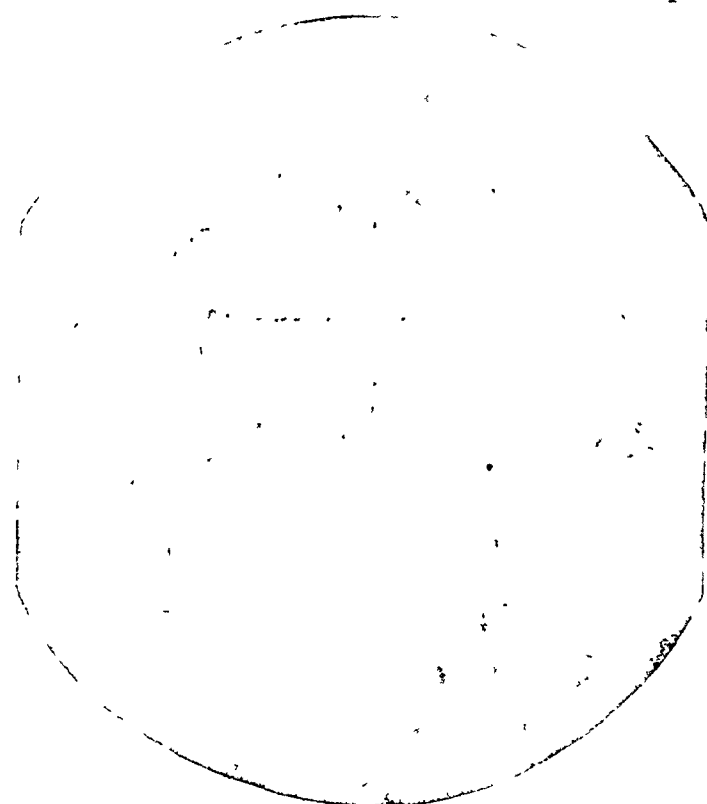


Fig. 4—Showing spore like bodies in disintegrating capsule (just above the center of the field).

from the corresponding forms described by Ophüls in his systemic case, also from the forms pictured by Gilchrist.¹² They contain usually not more than twelve or fifteen, while Ophüls describes one hundred or more in each cell. However, we have noted in one of the

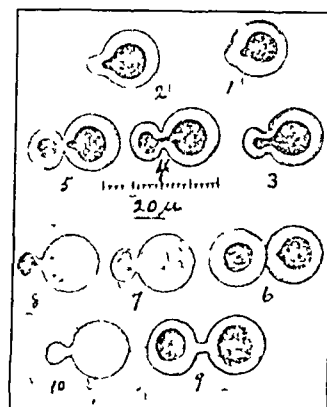


Fig. 5—Budding forms. 1 to 6. Series showing progressive changes in process of gemmation. 7 to 10. Unusual forms. 8. Organism, budding and apparently sporulating simultaneously.

guinea-pigs experimented on forms containing a very large number of spore-like bodies.

We have, then, two forms of cells producing spore-like bodies, one with a large central vacuole and one without, the bodies produced in these two forms being different in appearance, as already described. In no case

12. Gilchrist, T. C.: Blastomycetic Dermatitis in the Negro. *Bull. Med. Jour.*, Oct. 25, 1902.

have ruptured forms been observed in the tissues, the spores apparently being liberated by the disintegration of the parent organism. There is a possibility of confusing some of the extracellular developing spores with certain products of tissue cell degeneration.

We have not absolutely observed the development of these spore-like bodies into adult organisms, but the appearance of the different forms which we have seen in the tissues leads us to believe that this is really the case.

THE BUDDING PROCESS.

The process of budding, as observed in the tissue sections, is almost entirely confined to the younger forms, those having deeply staining protoplasm and a wide, clear zone within the capsule. However, it is seen in other forms. A few cells are seen undergoing gemmation and apparently sporulation simultaneously. The different stages in the budding process are represented by a series of drawings in Figure 5.

CHANGES IN THE BLOOD.

In the case of Busse,² where there was a fatal systemic

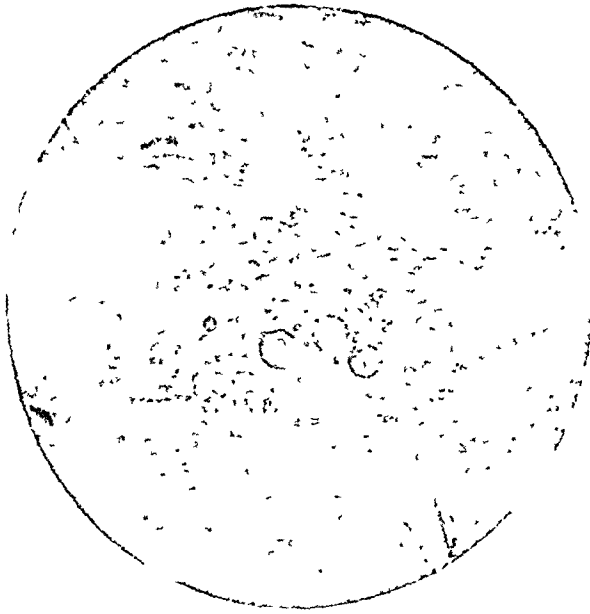


Fig. 6.—Three adult parasites seen in the blood stream of a vein of the kidney.

infection, cultures of the parasite were made from the blood during life. In Gilchrist's case,¹² which he regarded as a beginning systemic invasion, examination of the blood by culture failed to reveal their presence. In the case under consideration, we have observed in the blood stream of vessels of the kidney (Fig. 6), also in other places, adult parasites mingled with the blood cells. On examination of sections of a postmortem clot from the heart practically all of the leucocytes were seen to contain large, brownish pigment granules of uniform size, from three to ten in a cell.

TEASED TISSUE IN HANGING-DROP CULTURE.

In the teased specimens of fresh tissue from the affected organs large numbers of blastomycetes were observed. They were not all of uniform size and structure. They varied from five to fifteen microns in diameter. The contents of the cell were often nuclear in appearance. Sometimes there were only granules present. Frequently the granular contents were lobular in appearance, raspberry-like; again, they would assume a circular form about a large vacuole.

The cell wall is refractive and perfectly spherical. There is frequently one point where the capsule appears very thin, a point at which the protoplasm is often seen to protrude in the budding process. This is not always the point through which the growth takes place, for budding cells have been observed to produce mycelia from a point at sufficient distance from the point of attachment of the daughter cell to subtend an angle of twenty degrees. At the point where the mycelium appeared the capsule appeared to be perfectly firm.

Cell Development.—When hanging-drop cultures were first made, the cells varied considerably in size, but in a few days they had all reached a uniform size. As far as could be observed, no new budding processes took place after the cells had been placed in artificial media. Buds already existing grew to full-sized organisms. Some time later there appeared a few very large organisms (twenty to thirty microns in diameter) that changed their form from round to oblong. None of these large forms developed mycelia. In old mounts the cell contents of most of the organisms developed oil-like globules that varied from one to seven microns in diameter. In ten

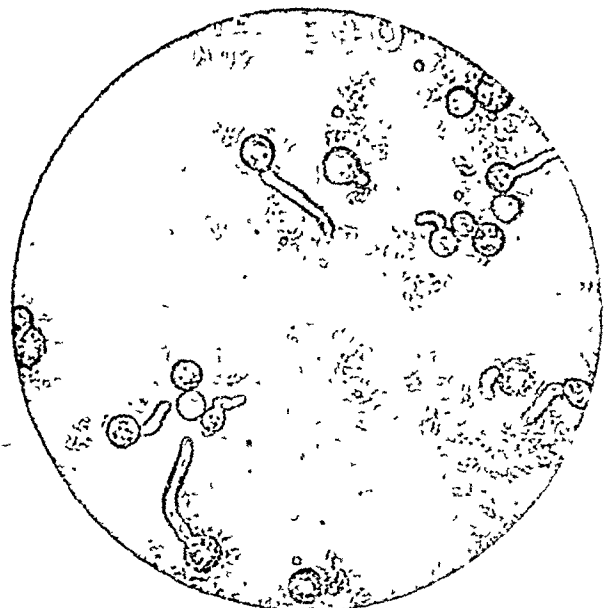


Fig. 7.—Blastomycetes. Teased cells from spleen beginning development in artificial media.

days some of them became so large that one globule occupied most of the cell. Some granule-like bodies manifested a very marked brownian movement. The formation of the fat-like globules seemed to be a process of degeneration, for the cells most exposed and those supplied with the poorest pabulum developed the largest globules.

Formation of Mycelia.—Thirty hours after hanging-drop cultures were made with bouillon for nutriment the cell started out small processes (Fig. 7). In the next twenty hours they grew sixty microns in length. The mycelia were homogeneous and possessed a very thin cell wall. Where the media was adequate, its growth seemed unlimited; but where there was but little media they grew slowly and developed a firmer wall. Protoplasmic granules and pinkish vacuoles formed in the processes. Soon these granules became smaller and more dense. Then they manifested a very active brownian movement. After the mycelia were several days old, there appeared a subdivision of the mycelia into cells or segments of varying length (ten to one hundred microns).

These segments near the focus of growth continued to develop, assuming a spherical form.

After a hanging-drop culture in glycerin bouillon had developed for about a month there appeared an end cell that budded. In a few days there were four cells. These, as in several other places, developed until there were a dozen or more in a cluster.

Fortunately, one hanging-drop culture had but six microorganisms present, thus giving excellent opportunity to observe them individually. One of the budding forms started a mycelium. The process originated from a point near the attachment of the daughter cell. Shortly after the mycelia divide into segments, many of them sending out processes (Fig. 8). There were no more than one process from a given segment. The granules that formed in the mycelia showed a more marked brownian movement than particles in the surrounding fluid. It was as marked as the motility of the pigment in the malarial parasite. This movement lasted for more than two months. It was observed also in the mother cell. As the plant became older there appeared an extra development of some of the individual cells in the thread.

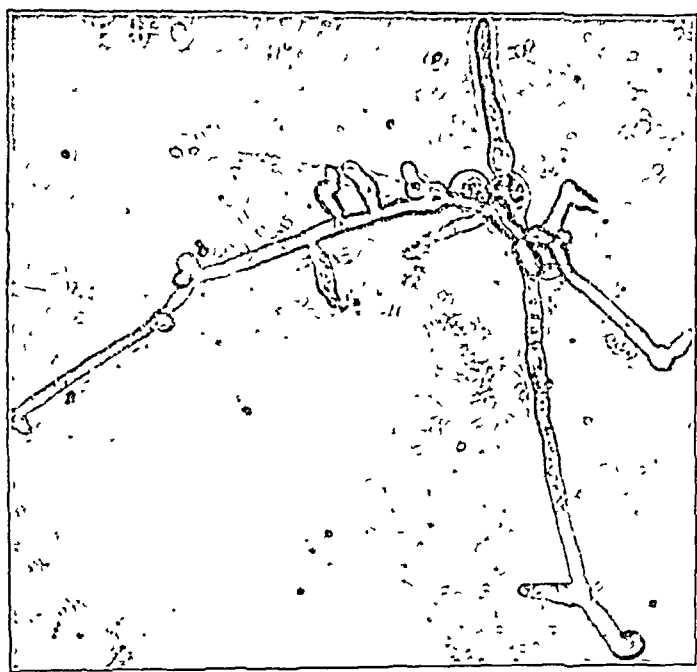


Fig. 8.—Blastomycetes. Dividing cell after ten days' growth in hanging drop culture.

They took on a spherical form, and produced a protoplasm similar to the protoplasm of the cells in the teased specimen.

CULTURAL CHARACTERISTICS.

Petri Dish.—Six to nine days elapsed after a culture was made before any macroscopic signs of development appeared. Then a white area composed of radiating threads might be seen about the center of growth. If the cultures are observed with a microscope, these threads may be seen a few days earlier. One or more mycelia may be seen growing from a point as early as the third day. These soon subdivide, others are given off nearer its point of origin; these grow out in radiating lines, subdividing as they grow. The growth may be very rapid, the mycelia increasing two millimeters in length in a day. The rapidity of the growth did not seem to depend on the temperature so much as it did on the amount of moisture in the atmosphere. The most rapid growth was manifested when the Petri dishes were kept so there was considerable moisture condensed on the inner surface of the covers. In the Petri dish the most rapid growth was manifested in gelatin. It is in-

teresting to note that in all media for some days no aerial hyphæ were produced. Instead, the growth spread beneath the surface in all directions. Later, however, the white aerial hyphæ appeared near the center of the growth.

Bouillon Culture.—Blastomycetes developed in plain, saccharin, glucose, lactose and glycerin bouillon. It is the most rapid and luxuriant in the glycerin bouillon. It grows most readily and rapidly on the surface and clings to the side of the tube very closely. It forms a mycelial growth on the surface of the bouillon so firm that it will prevent the bouillon flowing when the tube is inverted. If the tube is shaken a little after the growth develops, it is forced away from its position on the side and has the appearance of cotton. It never has developed the powder-puff appearance in bouillon. It is quite perfect in agar-agar, however. The teased membrane from the surface of the bouillon showed numerous conidia, three to six microns in diameter. There were also large conidia invariably filled with spore-like bodies. A little pressure between cover slips would liberate the contents of these bodies. Then all the appearances of the cells from teased tissues were observed. These large forms varied in size from seven to fifteen microns. Their arrangement in the teased materials suggested that they grew individually rather than in clusters of conidia.

Agar-Agar.—As has been mentioned, the early growth is quite completely beneath the surface. The growth is silvery white and forms a powder-puff-appearing hemisphere. It sometimes remains entirely beneath the surface and does not wrinkle. Again, it may wrinkle the surface. Sometimes eminences are thus formed from which beard-like tufts of aerial hyphæ are given off. As the culture advances in age it becomes slightly brown. The illustration will show the forms of growth as they appeared under the microscope. Conidia filled with spore-like bodies were also observed. The hyphæ varied much in diameter. There were some very fine forms measuring less than one micron.

Gelatin.—The gelatin plate grew very rapidly and did not wrinkle. No liquefaction was observed. The stab culture grew most rapidly at the surface. No liquefaction was observed in stab culture until after a month, when it was noted that the entire gelatin had gradually liquefied. At the end of three months it is perfectly fluid.

Litmus Milk.—The growth is rapid and abundant. The media changed to a deeper blue.

Potato.—The growth was as rapid as on plain agar. It was white and appeared like froth as the potato dried.

Loeffler's Blood Serum.—The growth was abundant, and did not seem to be more rapid than on glycerin agar. The color was not any different than what might be imparted by the media. There was no liquefaction.

Motility.—The motility of the protoplasmic granules was observed, but there was no motility of the entire microorganism.

Oxygen Requirements.—The cultures grown anaerobically by the Novy method showed no signs of growth in a month; but when removed from the hydrogen developed growth in seven days. A microscopic examination of material from the surface of the culture when taken from the jar showed no growth and no unusual forms.

Gas.—Although growth took place quite readily in the fermentation tube, no gas was produced, though grown in lactose, glucose and saccharose media.

By-Products.—No alcohol was developed in bouillon above mentioned. No carbon dioxide was produced in

quantities that could be detected. There was no nitrite or indol produced.

Destruction by Heat.—Growths in which there were aërial hyphæ grew readily after being exposed to 100 degrees C. for five minutes; while, if the hyphæ were submerged in bouillon before submitting to the heat, they were destroyed in less than five minutes at 54 degrees, centigrade.

Destruction by Antiseptics.—The microorganism is destroyed when exposed as follows: Five per cent. carbolic acid, for one minute; 2 per cent. commercial formalin, one minute; 1/1,000 bichlorid, for one minute. When exposed to 2 per cent. hydrochloric acid, specific gravity 1.320, for fifteen minutes, it not only was not destroyed, but it seemed to grow more rapidly.

Animal Experiments.—Of five guinea-pigs that were successfully inoculated, four developed ulcers at the point of inoculation. One developed simply a nodule. The ulcers were oblong, having the long axis parallel with the long axis of the body. In the center of a typical ulcer there is a dry, bloody scab. If this is raised it bleeds readily, while there may also be seen many pin-head-size gray foci. They suggest the military pustules characteristic of the human skin lesion. Around the central portion is a raised slightly indurated area from which the hair has fallen. The third day after inoculation one animal developed a subcutaneous abscess from which a bloody fluid was evacuated in which blastomycetes were observed. Two weeks after inoculation a ridge was noticed from the ulcer along the sternum to the clavicle, suggesting an enlarged lymphatic. The animals died a month after inoculation, all within a few days of each other. Although an epidemic was suspected it could not be proven bacteriologically, as blastomycetes were found near the seat of inoculation, while from the liver and spleen a pure culture of blastomycetes was grown in one instance. Cultures taken from the internal organs of the other animals did not develop any growth. However, had a larger number of cultures been made undoubtedly a positive result would have been more often obtained, for two-thirds of the successful cultures in the one case were negative. The lesions observed were numerous. Infarcts appeared in the lungs, kidneys, spleen, and in one case seven small, round hemorrhagic infarcts were observed in the stomach wall. Pin-point foci were seen in the liver and spleen. An ulcer was noted in the upper intestine. There was also quite an inflammatory condition in the axilla and groin, but no general glandular enlargement could be seen. One guinea-pig inoculated with material from agar-agar died in two months and manifested similar lesions to the above. Two rabbits were inoculated with teased tissue. Both lost in flesh, one more rapidly than the other. One is living; the other was killed five months later. No lesions were observed except numerous subcapsular scars in the kidneys. The microscopic study proved that they were a healing infarct. Two mice were inoculated with a culture after four months of artificial cultivation. They are alive after three weeks.

The microscopic study of the organs of the animals unfortunately has not been completed; nevertheless, quite a complete study was made of those of the guinea-pig dying of systemic infection. The same kind of lesions were noted as in the human. One observation is especially worthy of mention, namely, many large cells, apparently sporulating forms, as mentioned by Gilchrist,¹² were observed in the kidney sections.

There has also been a case of accidental infection following this case. The microorganism has been isolated in pure culture. It has also been observed in sections.

Experiments were undertaken to determine the effect of the x-ray on cultures of blastomycetes. They were exposed in Petri dishes with covers of oiled paper for periods from ten to thirty minutes in length every third day for two weeks. No visible effect was produced.

An ordinary sixteen-plate static machine was used with an x-ray tube of low tension. The distance of the tube from the cultures was two inches.

Cultures prepared in a similar manner were exposed to the influence of the light of an actinic ray apparatus. In these specimens, the growth of the organisms entirely ceased. However, a certain amount of heat was developed in the exposures, and it is impossible to determine whether the effect was due to the heat or to the influence of the actinic ray.

During these experiments, a very interesting observation was made. The paper covers of the Petri dishes were oiled, some with paraffin, others with cedar oil, to make them more transparent. In the case of those which were exposed to the x-ray, those cultures which were under the paraffin paper grew with their usual activity, while the growth of those under paper prepared with cedar oil was absolutely inhibited, and by culture experiments from those plates it was determined that the life of the parasites was destroyed. In a later experiment in which cultures were employed which had been growing for nine days, and in which the colonies had reached a considerable size, their further growth was entirely prevented by the cedar oil paper, while they continued to develop at a rapid rate in the control plate. In this case the cultures were exposed simply to the influence of the cedar oil, no other agents being used which might effect their growth. Subcultures from these plates made after an exposure of seven days to the effect of the cedar oil paper showed that the organisms were not yet destroyed, although absolutely inhibited. This observation may possibly prove to be of some value in the treatment of blastomycetic infections.

SUMMARY.

1. This case is one of systemic blastomycetic infection and belongs to a class of which but a very few instances have been reported.
2. Parasites were demonstrated in the blood post-mortem and dissemination evidently took place through this medium.
3. The lymph glands are remarkably free from infection.
4. In the lesions the parasites were found in immense numbers, and the inflammatory reaction in the tissues were of a remarkably slight degree.
5. The leucocytes of the blood and certain tissue cells contained large quantities of round pigment granules.
6. Parasites grow in the tissue only by budding, the forms appearing from five to fifteen microns in diameter; in artificial culture by segmented mycelia, lateral conidia, and in very old cultures a few budding forms.
7. There is a definite order of development of the parasite in the tissue, the younger forms having a densely staining protoplasm undergoing active cell division by gemmation; the older forms not deeply staining and not actively dividing, and containing spore-like bodies.
8. From the findings in the tissue it seems evident that sporulation occurs, five to fifteen spores developing in each cell where they are seen.

9. Organisms derived from teased tissues have been observed in hanging drop to produce mycelia within a few hours after they were removed from the tissue.

10. The effect of exposure to the x-rays was negative.

11. The effect of the actinic ray is doubtful because the element of heat was not eliminated.

12. The cultures covered with cedar oil paper died within one month. Those exposed for one week were completely inhibited from growth, but were not dead.

13. The organism fulfills the laws of Koch, guinea-pigs being more susceptible than rabbits.

14. The organism grows readily on all forms of artificial media used.

15. In gelatin liquefaction was produced after one month.

ANOPHTHALMOS.

REPORT OF A CASE.*

LAWRENCE R. RYAN, M.S., M.D.

GALESBURG, ILL.

The case of anophthalmos which I am about to report is not detailed for the purpose of deriving great clinical benefit from its consideration, but purely on account of its scientific bearing, and the possibility of throwing some light on the intrauterine disturbances that may cause the development of monstrosities.

Cases of anophthalmos are indeed rare, and cases of pseudoanophthalmos or microphthalmos are seldom enough seen to warrant us in presenting them to this scientific body. Aside from the complete absence of the eyeballs, other congenital deformities associated in this case are worthy of consideration. Then, too, the possibility of the influence of consanguinity in their causation makes it doubly interesting.

This case was brought to my knowledge in the following manner:

Sept. 7, 1894, I was summoned to a neighboring town to see a child about two months of age, which apparently had something wrong with its eyes. At a casual glance it seemed to be asleep, and aside from a tendency to anemia appeared to be fairly well nourished. On a more careful examination, however, anomalous conditions were brought to view. When I opened the lids I was astonished to find that there was not the faintest resemblance to an eyeball in either socket. The lids, palpebral muscles and orbits were perfectly formed. The lids were depressed exactly as in a case of enucleation of the eyeballs. The palpebral conjuction extended backward and made a complete sac. The most careful examination could not reveal anything that would indicate the presence of an eyeball, either large or small, nor did it appear that any retinal fibers had developed. I examined the child on several occasions during a year, but was unable to get any response to light stimulation. She slept during the day, but remained awake all night. This circumstance, however, is not uncommon with healthy children who have normal eyes. This girl lived until she was 3 years old and then died from enterocolitis. It was impossible to secure an autopsy. Therefore, any minute details or microscopic pathology can not be given.

There are those in the profession (and among them Fuchs) who deny *in toto* the possibility of an absolute anophthalmos, because in several cases eyes as small as a millet seed have been discovered by postmortem examination where anophthalmos was supposed to have existed. Of course, in this case in the absence of postmortem evidences we can not absolutely and conclusively

prove our case. But from rational reasoning such an occurrence would seem possible. We have congenital deformities of all parts of the body, and there is no reason why failure in the development of the primitive ocular vesicle should not occur from some interference of nutrition. A few years ago the reports of the Royal London Ophthalmological Hospital gave ten cases.

During the course of the examination of this girl I found that she was deformed in various ways. The right external ear was smaller than the left. The meatus and internal ear were normally developed on each side. The hearing was abnormally acute, as is usually the case with the blind. Before she was a year old she could hear and recognize her father's footsteps long before any one else in the house, and would manifest her delight by clapping her hands.

The hands were flexed on the forearm at birth and the little and ring fingers of both hands were webbed as far as the second joint. By daily massage, however, the flexor tendons were relaxed and the hands and fingers could be fully extended and used normally.

At the lower third of both legs the bones were deformed and jogged, and large exostoses thrown out the same as in a case of fracture that had not been set. The tibia and fibula were involved alike. There was evidently an attempt at intrauterine amputation or arrested development of the extremities. At the time of examination, however, the bones were fully united and firm. Both feet were abnormally small. There were but four toes on each foot, and all the toes were webbed. In addition to this, both feet were inverted. There was marked varus, or equinovarus. Aside from these described deformities the child seemed normally developed. Mentally she was very precocious.

When such a train of congenital deformities occurs in the same child the profession as well as the laity are apt to attempt a solution of the difficulty. By the laity the condition is ascribed to one of two possible occurrences, namely, that the mother was scared by some animal or thing (in which event the child resembles the object that scared the mother), or it was produced by the near relationship of the parents. In this case the opinion of the laity may be set aside as far as the question of fright is concerned, for the mother had no remembrance of any such occurrence, and beside, the child bore no resemblance to a monster. On the other hand, however, the question of consanguinity enters largely into the case. The father and mother were first cousins. For those who recognize the possibility of deformities occurring in children whose parents are closely related, it opens a wide field for discussion and speculation. For my part I could never trace any physiologic or pathologic connection between deformities and consanguinity.

If we consider closely the nature of the deformities in this case we can easily see that whatever the cause of the uterine disturbance it affected the different parts of the fetus at practically the same time—that is, between the sixth and eighth week of gestation. It is true that the primitive ocular vesicle makes its appearance at the third or fourth week, but at the eighth the lens capsule is just beginning to form and the eye is just in the active point of development. At almost the same time the extremities begin to develop. At the fourth week we have the projection of the upper and lower limbs, but at the eighth week the thigh and leg can be distinguished. Up to this period the fingers and toes are webbed. Thus we have the absence of the eyeballs, which develop before the eighth week, and the webbed condition of the fingers

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nd toes, which also occurs before the eighth week, to prove that there was one great systemic upheaval, as it were, which arrested the development of the fetus at these points. What it was I will not attempt to say, for I was unable to elicit any information from the parents on this point. It may have been due to some displacement of the fetus in the uterus, or some temporary interference with the fetal circulation. It must have been temporary, for the fetus developed to full time without any further difficulty. Of course, the effect of some shock to the mother can not be overlooked.

Now as to the effect of relationship in these cases: Personally, I do not believe that *per se* it can have any effect. Two perfect physiologic beings ought to develop perfect offspring, other things being equal. The shortness of time, however, would preclude the possibility of going into this part of the subject in detail.

It is a well-known fact that breeders of stock inbreed closely if they wish to develop some particular trait in the animals, and especially a good trait. This is done with the most excellent results. However, there are few animals that have not some very objectionable characteristics, and these run along the line of heredity. To obviate the necessity or possibility of these bad traits developing out of proportion to the good ones it becomes necessary to cross the breed. For instance, a certain breed of horses are excellent trotters and also always produce good trotters, but they have bad tempers and become unmanageable. By too close inbreeding the vicious temper may more than keep pace with the development of speed, so the breed has to be crossed to secure a milder-mannered horse, even at the expense of a little speed. This condition will hold good among all classes of animals. A physiologically healthy man and woman, whatever the relationship, ought to produce healthy children.

The repugnance to consanguineous marriages is probably religious in origin, but has a basis of sound fact. People become diseased, and those who are closely related and dwell together are apt to develop the same diseases or defects of organization. The theory propounded above will also hold good here. Inbreeding among diseased or deformed humans will develop these deformities. For this reason it is a wise religious or political law that prevents it. It is a noteworthy fact that there are many degenerates and imbeciles among the royal families of the old country. This does not come, however, from the actual fact of relationship, but from the fact that syphilis, insanity and other diseases have been transmitted and developed at the expense of good traits. In many cases, however, remarkable genius has been developed in the same manner. The objection to marriage among blood relations has become so firmly fixed in the general mind that its influence may be felt. I can readily see that if a couple married who were closely related and the possibility of deformed offspring as a consequence of this relationship were brought repeatedly to the mind of a prospective mother, it might have some influence on the development of the fetus. I think there are few men in the profession to-day who are willing to deny in *toto* the influence of the mind on the body, and particularly the influence of the mother's mind on her child in embryo.

Both parents of this child were healthy and free from deformities. The mother was a primipara and 35 years of age. She was inclined to be anemic. The father was a large, rugged man, 55 years of age, unusually well preserved for his age. There was no specific history.

DISCUSSION.

DR. CASEY A. WOOD, Chicago—Was the article referred to published in the Reports of the Royal London Ophthalmic Hospital by Lang in 1890? (Dr. Ryan answered "Yes.") I had something to do with the preparation of that article, and I thoroughly agree with Manz, who first made the statement that there is no such thing as a true anophthalmus. The primary optic vesicle forms so early that traces of it are almost always present, even if nothing can be seen or felt in the bottom of the orbit. In all the cases of anophthalmus so far reported which have been thoroughly worked out histologically some part of an eyeball has been found. I remember an alleged case of total anophthalmus, an account of which was published some years ago, in which it was stated, as conclusive evidence of anophthalmus, that nothing could be found at the bottom of the orbit by sight or touch. Of course, the primary vesicle does not constitute a developed eyeball, and in that sense the word anophthalmus might be a proper term to use for these cases.

DR. J. M. BALL, St. Louis—In a case I have reported the child lived six months; the lids were perfect and there was a complete conjunctival sac. The appearance within the orbit was as if an enucleation had been done. The lachrymal glands were large and secretion was present. The whole subject has been worked out by Von Hippel and can be found in his contribution on the congenital anomalies of the eyes (Graefes-Saemisch Handbuch der gesamten Augenheilkunde). He has collected data in regard to the condition comprising 64 cases of double and 23 of unilateral anophthalmus. Most of them have been cases where postmortem examination was not permitted. Dr. Wood is correct in saying that in an ophthalmologic sense true anophthalmus does not exist, but clinically it occurs.

DR. J. H. CLAIBORNE, JR., New York—Two years ago in New London I reported a case of double anophthalmus in which I reviewed the literature, and am much indebted for my knowledge to Von Hippel. I think Dr. Wood is correct, and yet we must have a name for the condition. If we separate the lids and find nothing we can surely say that it is a condition of anophthalmus. Double anophthalmus is more rare than single, and where it is double, as in the paper reported to-day, I think it should be treated with a great deal of care. The relation of the parents to each other is to be looked into. My case was the child of German parents, the father being much older than the mother. The child had no eyes; I could see to the bottom of the sacs. There was an imperforate nostril on one side and on one side the ear was lacking entirely, but there was an attempt at an external auditory meatus below. The father denied syphilis. I noticed one unusual sign, namely, a very high vault to the pharynx which was arched almost to a crevice.

DR. S. C. AYERS, Cincinnati—I saw a case of so-called double anophthalmus a few years ago. The baby was several months old and, so far as I can remember, well formed. Between the lids nothing was visible except the smooth mucous membrane, just as though an enucleation had been done. I have in my neighborhood a young man with single right anophthalmus, the left eye being normal.

DR. L. R. RYAN, Galesburg, Ill.—I simply present the clinical case, as I did not have the pathologic evidence. I do not see, however, why we may not have an anophthalmus, just as we may have the absence of any other part.

Fire-escapes and Tuberculosis.—The suggestion recently made by Dr. Alfred Meyer of New York, to utilize the fire-escapes of tenement buildings for the outdoor treatment of consumption, is an excellent one. The tuberculous poor would thus have the benefit of fresh air without the expense of leaving their homes. While the air in the streets of tenement districts is not to be compared to that of the country, it is certainly far superior to that which the patient would be compelled to breathe in a small room of a tenement house. The objection that might be raised that the use of fire-escapes for such purposes would be dangerous in case of fire is not an important one, for in such an event the patient would be the first to escape.—*Med. Age.*

CALCAREOUS DEGENERATION OF CORNEAL CICATRICES.*

H. MOULTON, M.D.
FT. SMITH, ARK.

Aside from, or in, association with hyaline degeneration (colloid of Saemisch), deposits of lime salts are described as occurring in the cornea, sometimes superficially, as in the so-called "band-like opacities,"¹ sometimes as infiltrates of small particles,² and, again, as larger masses in the form of plates³ in old cicatrices. It is the latter type to which these remarks refer. Such cases are comparatively rare and clinical reports of them are rarer still. Some text-books do not mention them at all. I have seen but two cases, both occurring within the same month. As they present some interesting clinical features, I report them:

CASE 1.—Mr. J. T. W., age 52, a merchant of Indian Territory, referred by Dr. Miller, came Feb. 20, 1901. He had an adherent leucoma in each eye, which he stated originated in an attack of sore eyes in 1865. Until recently the vision of the left eye had been the best. Of late all near work had been given up because it was attended with pain, smarting and excessive secretion of tears in that eye.

The leucoma of the right eye covered the temporal half of the pupillary area of the cornea and involved the iris, but there was nothing unusual in its appearance.

The opacity of the left cornea, about 5 mm. in diameter, occupied the inferior nasal quadrant. In the center, where the iris was most intimately involved, appeared a dense chalky white area 2 mm. in diameter. Its surface was smooth and glistening and the probe failed to reveal any roughness. The eye was not red and its conjunctiva was healthy. There was a prominent pterygium.

Javal's instrument showed the right cornea quite irregular and the left cornea with 7 diopters of astigmatism with the rule.

Vision: R. E. 15/60 with +1.5=15/45; L. E. 15/100 with +1. S. C. +3. cyl. axis 85=15/40.

The pupils dilated to atropin in a direction away from the adhesions, but as good vision was not possible after dilatation as before. As I did not wish to cut into an adherent leucoma without positive indications, and as the symptoms were mainly of asthenopia, I hoped the use of glasses would give relief. These I ordered. I also removed the pterygium at the patient's request, for he attributed his discomfort to its presence. For a short time there was relief and the patient could attend to his books and correspondence. But in three weeks he returned complaining as much as ever. In addition to the other symptoms there was now for the first time a feeling as of a foreign body in the eye. Yet there was no redness or secretion. Feeling sure now that the degenerated scar was the cause of irritation, under cocaine I pushed a sharp instrument into the chalky white part of the opacity and encountered a gritty substance. It was covered by superficial scar tissue, which I cut away. The gritty substance in the form of a plate, the thickness of writing paper and like eggshell in appearance and feel, was dug out. It was 2 mm. in diameter, irregular in outline and corresponded to the dense white, sharply defined area before described, lying over and resting on the adherent iris fibers. A deep, undermined excavation was left with exposed blood vessels at its bottom. There was no reaction. Healing was prompt. Relief was perfect and lasting. V. with correction 15/30. The use of the eyes has been comfortable up to this time. Scar is smooth and appears like that of the other eye.

CASE 2.—Mrs. B. F. M., age 26, of Magazine, Ark., sent by Dr. Powell, came March 2, 1901, on account of pain in the left

eye. Her right eye was normal. Her left eye was diseased when she was 3 years old, and from that time there has been a white spot on the cornea. Only during the past two years had the eye been painful. The pain was in paroxysms, lasting from three days to a week, with quiet intervals of corresponding duration. The pain was described as not that of a foreign body, but neuralgic in type, somewhat relieved when in the dark. It often drove her to bed. The eye was markedly divergent and presented a large dense cicatrix in the inferior nasal quadrant of the cornea involving the underlying iris. Its center had a chalky white area similar to that described in the previous case. The eye was not red, but flushed readily on examination. The fundus was visible through the temporal half of the pupil, with a pale and somewhat cupped disc. Vision: fingers at 1 foot; tension was plus. The glaucomatous symptoms led me to perform iridectomy, without relief, however, of the paroxysms of pain. Two weeks later I cut into the scar and dug out a calcareous plate, 1 by 2 mm. in area, almost identical with that of the first case. Healing was normal and there has been no return of the pain.

In both of the cases I felt certain at the first examination that the chalky white areas were the seat of degeneration, probably calcareous. The reasons they were not removed at once were: First, neither the probe nor magnifying glass revealed any break in the smoothness of the organic tissue overlying them; second, the symptoms were not such as usually are caused by a superficial foreign body, being in one case those of asthenopia, in the other more like those of glaucoma; third, there was some fear of exciting undue reaction by digging into an adherent leucoma, for merely exploratory purposes.

Later, the deposits in one case became partially uncovered, and gave rise to foreign body symptoms, at once indicating the proper procedure. In the other case I cut into the cicatrix, though its surface was still smooth, because the patient demanded relief, even if at the expense of the loss of the eyeball. It is now clear that the symptoms in both cases were due to the irritating effect of the hard substances resting on iris fibers deep in the cicatrices. We may conclude, also, that all leucomata involving iris, presenting a chalky area sharply outlined in contrast with the rest of the opacity, may be safely, and should be, cut into, even though the surface seems smooth. Are such deposits, *en masse*, found alone in adherent leucomata and not in those not involving the iris? That the masses removed were calcareous I take for granted from the statements of the books, but I regret that no microscopic or chemical tests were made.

PRESENT STATUS OF THE PURIFICATION OF
PUBLIC WATER SUPPLIES.*

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Ten years have elapsed since the beginning in this country of the epoch of practical accomplishments in the field of municipal water purification. To record and review briefly the more important advances that have been made during the past decade, and to indicate the results, conditions and tendencies as they stand today, is the object of this paper.

In 1893 the water filter for the city of Lawrence, Mass., was put in service. Up to that date comparatively little had been done in the way of purifying city

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Norris and Oliver: p. 346.
2. J. P. Nuel: System Diseases of Eyes (N. and O.), vol. iv, p. 238.
3. Fuchs: p. 195.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

water supplies in America; although it is to be remembered that in the early 70's several small sand filter plants were installed, notably at Poughkeepsie and Hudson, N. Y. They were built according to the plans of the late Mr. Kirkwood, following his investigations concerning sand filtration as then practiced in Europe.

Ten years ago mechanical filters attracted but little attention and were not looked on with favor by sanitarians and engineers. They were comparatively crude affairs in those days, representing but few of the improvements resulting from the transitional stages through which they have passed from their original form of mill or industrial filters to the types in which they are found to-day.

Prior to the construction of the Lawrence filter, the combined area of all filter plants then in existence in this country was not more than 1.5 acres, having a rated capacity of 4,000,000 gallons daily. The combined area of all mechanical filters at that time was about 12,000 square feet, having a rated capacity of about 35,000,000 gallons daily.

To those who have not followed closely the developments in this field of sanitary science it is almost inconceivable to look back and realize what uncertainty and differences of opinion prevailed concerning filtration as late as 1892. For some time prior thereto the medical and engineering journals of Europe had much to say concerning the outbreak of typhoid fever during the winter of 1889 in the eastern portion of the city of Berlin, where water consumers were supplied with filtered water from the old Stralau sand filters. At London a royal commission was engaged in an investigation of the future supply for the metropolitan district, and received testimony from many prominent sanitarians to the effect that, in their opinion, filtered Thames river water should be abandoned, and that new supplies should be obtained from mountain sources. In a number of European cities discussions were taking place as to improved water supplies, and many sanitarians urged that new supplies should be drawn only from pure mountain streams, or from ground water.

In view of the somewhat conflicting evidence at that time as to the merits of water filtration, there was conducted at the Lawrence experiment station, as is well known, a series of experiments, starting in with the use of very fine materials, including loam, and very low rates of filtration, giving conditions not much unlike those which had been studied shortly before at that place in connection with sewage purification. In this way evidence was gradually accumulated from tests made under various conditions as to coarseness of materials and rates of filtration, which led, in 1892, to the conclusion by the Massachusetts State Board of Health that the purification of waters as highly polluted with sewage as that of the Merrimac river could be successfully accomplished at a reasonable cost.

Opportunities for putting into practice the results of these investigations, and in the city where they were developed, came quickly. The several large cities in the valley in which Lawrence is situated, and including Lawrence itself, had suffered severely for a number of years from epidemics of typhoid fever due to sewage pollution in the Merrimac river, from which they obtained their public water supply. In the late summer of 1892 it will be recalled that Asiatic cholera appeared in New York harbor. It was the appreciation on the part of the Lawrence city government of the calamity that would befall them, should cholera become established temporarily in the cities situated on the Merrimac river

above them, that caused them to take the initial step paving the way for an era of practical accomplishments in municipal water filtration. They placed at the disposal of the water board such sums of money as were available from their limited funds, and construction work was commenced. The Lawrence city filter was carried to successful completion under the guidance of Mr. H. F. Mills, engineer member of the Massachusetts State Board of Health and put in service in September, 1893.

Immediately following developments at Lawrence, Mass., came the first of quite an extended series of investigations as to the efficiency of different styles of filters, and under widely different conditions. The first investigations were made at Providence, R. I., under the charge of Mr. E. B. Weston, engineer of the water department there, and were directed especially to the efficiency of mechanical filters in purifying the Pawtuxet river water. This water is not muddy, but contains considerable vegetable stain and at times is subject to more or less sewage pollution. The Providence tests, which were made on a small scale, led to the conclusion, reached for the first time on data covering a considerable period of time, that mechanical filtration under reasonably favorable conditions would give efficient purification.

Following the Providence tests, a series of three investigations, namely, at Louisville, Pittsburg and Cincinnati, was made, showing the results which could be expected on a large scale in treating certain of the muddy waters of the South and West. The results of each of these investigations were made public in detailed reports during the years 1898-99.

As is well known, surface waters of the South and West ordinarily contain so very much more mud than do the waters of New England and most of the European rivers, where large filter plants have been established, that officials in charge of waterworks plants in the South and West were in former years exceedingly skeptical as to the practicability of filtration, not only on the ground of cost, but also of efficiency. The three investigations mentioned, covering a period of four years, and representing an expenditure of upward of \$200,000, furnished information sufficient to place the subject of purification of ordinary muddy waters on a reasonably satisfactory basis.

Without going too much in detail into results of the investigations in question, it may be said briefly that they showed the limitations of sand filters in the treatment of muddy waters; the urgent necessity of preparing very muddy waters for filtration by the removal of mud by means of settling reservoirs and by coagulation prior to filtration by any method; the probable limitation to which plain subsidence could be advantageously carried with the types of water in question; the best available means of coagulation; and the suitability of filters, both of mechanical and sand bed types, in treating these muddy waters after the removal therefrom of excessive quantities of mud.

Following the investigations made on the Allegheny and Ohio rivers there were several other investigations, among which are those made in Washington, Philadelphia, New Orleans and Harrisburg. The Washington investigations have been published in detail, and were largely confirmatory of the results obtained at earlier dates. Those made at Philadelphia and Harrisburg have not yet been published in detail. At New Orleans there is just issuing from the press a detailed account of the investigations made under the direction of Mr. Geo. G.

Earl, who has described to you the general conditions in this city regarding the installation of a new system of sanitary works, including an improved water supply.

These investigations at New Orleans were conducted for about one year, beginning in the autumn of 1900, and were under the immediate charge of Mr. R. S. Weston. A brief summary of the results of these investigations is next given.

To appreciate the conditions of water purification of the Mississippi river at New Orleans it is necessary to bear in mind that the drainage area of this river comprises about 1,240,000 square miles, extending from the Canada line to the Gulf of Mexico, and from the Appalachian to the Rocky Mountains, the aggregate area representing more than one-half of this country. On this area is an urban population of over nine million people resident in towns having a population of more than 4,000.

Regarding the physical condition of the Mississippi river water at New Orleans, it may be said that it is turbid at all times. Records of the amount of suspended matter are available for seventeen complete years, fifteen of which are based on results of observations made by the Mississippi River Commission. The average amount of suspended matter as compared with that in waters elsewhere is shown by the following table:

City.	River.	Suspended Matter.	
		Parts per mil. River Water.	Tons per mil. Gallons.
Lawrence.....	Merrimac	10	0.042
Albany.....	Hudson	15	0.062
Pittsburg.....	Allegheny	50	0.208
Washington.....	Potomac	80	0.333
Cincinnati.....	Ohio	230	0.937
Louisville.....	Ohio	350	1.480
New Orleans.....	Mississippi	650	2.70
St. Louis.....	Mississippi	1,000	4.16

While it is seen from the above table that the total amount of mud in the Mississippi water here is less than at St. Louis, it is a fact that the water at New Orleans contains a far greater proportion of submicroscopic clay particles. At St. Louis from 80 per cent. to 90 per cent. of the mud is so coarse that on an average it is deposited in settling basins holding twenty-four hours' flow. At New Orleans a basin of similar size would show a deposit of only about 45 per cent. of suspended matter, leaving in the settled water about three times as much very fine clay as would be the case in the settled water from below the mouth of the Missouri river.

The difficulty in treating the New Orleans water from the Mississippi river is apparent when it is stated that purification works for this city must remove on an average each day some fifty to sixty tons of submicroscopic clay particles, nearly all of which are smaller than bacteria, and many of which are not more than one-tenth the size of the latter. This is the most difficult feature to be contended with in the local purification works, as it can be stated that with the removal of the clay particles on a satisfactory basis the bacteria will take care of themselves, because, owing to their size, their removal is generally easier than are the last traces of these clay particles.

Another factor in this connection is that the hygienic condition of the raw Mississippi river water at New Orleans is better than one might suppose at first thought, after reflecting on the large population which drains into this river. As a result of more than 100 examinations of the water in volumes varying from one to three hundred cubic centimeters, the presence of the colon bacillus, the leading microorganism of the intestines, was detected only in three instances. These con-

ditions are not so surprising when one stops to consider carefully that there are only about 45,000 people resident in cities which discharge all or part of their sewage into the Mississippi river within 600 miles of New Orleans and none within 130 miles. The remaining population of the Mississippi delta does not drain into the Mississippi, as the slope of the ground is away from the river.

Stating briefly the results of the New Orleans investigations, it may be said, first, that plain sedimentation for a period of three days, followed by slow filtration through sand beds, according to European practice, proved to be impracticable, because of excessive cost of cleaning the beds, and also of the fact that for many months at a time the filtered water would contain so much clay that it would be unsatisfactory for municipal use. Indeed, it may be said that if all the money available for the construction of the new system of water-works in this city, including pumping stations and distributing pipes, were expended in the construction of settling reservoirs they could not sufficiently clarify the river water in order to prepare it adequately for filtration.

A procedure which was found to be successful is that involving the use of a coagulant to mass together the tiny clay particles into bunches of sufficient size so that they can be handled efficiently by sedimentation. Water so treated was studied in connection with both types of filter; that is, sand beds and mechanical filters.

One of the most important features studied in New Orleans was the economical and advantageous limits to which plain sedimentation could be carried; that is to say, the most practical division of work under local conditions between plain subsidence and coagulation followed by supplemental subsidence; and, further, the degree of clarification which it is advisable to provide for the water prior to its application to the filters. It was found that where sand beds are used the best arrangement consists of a plain settling basin holding twelve hours' flow on an average, followed by coagulating basins holding twenty-four hours' flow, from which the treated water, containing about thirty parts per million of clay would pass through sand beds at a rate of about 5,000,000 gallons per acre daily, or double the German standard rate. Where water is applied to mechanical filters, the best method consists of plain settling basins holding twelve hours flow on an average, followed by coagulating basins holding another twelve hours' flow, thus bringing the turbidity of the water as low as fifty to seventy-five parts per million, and so that it could be satisfactorily treated by mechanical filters at rates of from two to three gallons per square foot of filtering surface per minute.

Comparing the relative merits of these two types or systems of water purification it is found that the one involving the use of mechanical filters would be about \$500,000 cheaper than the one involving sand beds; that the former would also be distinctly cheaper in total cost, involving both fixed charges and operating expenses; and that it would give a quality of water as to both clearness and hygienic conditions equal to that furnished by the other type of filter. Hence it was concluded to recommend the adoption of the so-called American system, involving the use of plain subsidence, coagulation and mechanical filters.

Regarding the question of coagulation, the New Orleans investigations were made with the use of sulphate of alumina, which it is proposed to use in practice unless it is found that a more advantageous chemical should

become available. In this connection it may be stated that the Mississippi river water always contains an adequate quantity of carbonates of lime and magnesia in order to decompose the coagulating chemical so that with a reasonable grade of supervision there is no likelihood whatsoever of undecomposed chemical entering the filtered water.

Another feature to be mentioned in this connection is the fact that the Mississippi river water does not vary with extreme rapidity in its composition, and hence the application of coagulant solution would be on a much more regular and uniform basis than in many places where the process has been considered.

It is possible to use compounds of iron for purposes of coagulation of waters like that of the Mississippi, but at the present time there is no information to indicate that they would be better or cheaper than sulphate of alumina. In the course of the Louisville investigations much study was given to the practicability of coagulating waters by electrolytic treatment in which there is obtained the hydrate of the metal used, that is, of iron or aluminum. These hydrates mass together the clay, bacteria and other particles suspended in the water in a manner similar to that effected by means of aluminum hydrate formed from the decomposition of sulphate of alumina. This electrolytic process, as the evidence now stands, is not only more expensive, but can be controlled much less readily than in the case of sulphate of alumina. Electrolytic processes, if they could be utilized in a practicable manner, would have two advantages: One is that they do not convert lime and magnesia from carbonate to sulphate, the latter of which is less desirable in water used for steam-raising purposes. The second is that such processes would overcome sentimental objections which appear to prevail in some communities against the use of sulphate of alumina in water purification. It is not definitely proven that some electrolytic process may not some day assume practical form, but there is no evidence now available to indicate such an outcome.

As to the question of the use of sulphate of alumina in water purification, the present feeling in this branch of municipal work is that it is not judicious to use it if equally efficient results can be accomplished at equal cost without it. There is, however, no evidence on record to indicate that harmful results follow its intelligent use, as is testified to by the actual experience of over 200 cities and towns in this country, with an aggregate population of about 2,000,000 persons.

The New Orleans investigations are undoubtedly entitled to a prominent place in the history of water purification, in that they show conclusively that works can be constructed successfully to clarify and purify waters charged to the highest known limits with submicroscopic clay particles, and at reasonable cost, coming within the financial limits of the average municipality.

Referring to developments in the general field of water purification, it may be said that recent practice points clearly to the advantage of much more thorough preparatory treatment of waters prior to filtration than was formerly the case, and to the use of higher rates of filtration than were previously considered advisable. This applies not only to the rapid method of the mechanical type of filter, but also to the sand bed type. In connection with the latter the use of preliminary or roughing filters has unquestionably much merit in the treatment of certain types of water, as shown by developments at Philadelphia and at Zurich. The future will undoubtedly show still further advancement in the successful use of double filtration, not only in the case of certain turbid

waters, but also of waters highly polluted with sewage.

The use of ozone has received attention for many years in connection with water purification, especially concerning the endeavor absolutely to sterilize water as it is supplied to the consumer. Whether or not this is necessary or even desirable is very doubtful according to present evidence, and it is not likely that it will become a prominent feature in large municipal works for some time to come, owing to the cost of producing ozone or ozonized air in sufficiently concentrated form to effect sterilization. This is due partly to the expense of electric generating devices, and partly to the fact that ozone treatment, according to present indications, can be regarded only as a supplemental step following filtration, and not a substitute therefor. The reason why the application of ozone has to follow filtration is that it is essential first to remove the organic matter as far as possible from the water, thus reducing the quantity of the ozone required for sterilization purposes, to say nothing about needs for clarification.

Such application of ozone would prevent or destroy those growths of bacteria which, as well known, occur to a greater or less extent in the underdrains of sand filters, and occasionally in mechanical filters. As such growths refer without exception to harmless kinds of bacteria and not to disease-producing germs, there is no reason to believe that the cost for applying ozone for this purpose would be justifiable.

Regarding the treatment of surface waters stored in large ponds or reservoirs, and such as at times contain very objectionable odors or taste, investigations conducted at Springfield, Mass., in 1901, on the famous Ludlow Pond water indicate that it is practicable to make such waters satisfactory by double filtration through sand beds in conjunction with aëration.

As to the decolorization of swamp or marsh waters, experience has indicated that this can be accomplished by means of coagulating treatment, as is shown by the purification works in the city of Norfolk, Va. Without coagulant, such swamp or marsh waters can not be successfully freed from vegetable stain.

As a general proposition, it may be stated that in the light of present knowledge practically any water may be successfully purified by some combination of the various processes which have up to this time been studied with care, and at a cost ordinarily ranging from one-half to one and one-half cents per thousand gallons, depending much on local conditions.

In regard to the construction of purification works, material progress has been made in recent years, and many works recently designed are not only of a much more permanent and durable nature than in earlier designs, but they are especially improved as regards convenience and facility of operation. This particularly applies to mechanical filters, as is perhaps best shown by the plant recently put in operation at Little Falls, N. J., by the East Jersey Water Company. This plant, occupying about one acre in area and capable of producing 40,000,000 gallons of filtered water daily, is the largest completed plant in the country, although larger ones are in process of construction. The structures are entirely of concrete, and all devices, so far as practicable, are made automatic, or arranged to sound automatically a gong to call the attention of the operator to what is required. Hydraulic cylinders are attached to all valves and are operated by levers conveniently placed. W and .
Air for washing the sand .

turned on and off by pressing a button, thus stopping and starting the motors operating the machinery.

Concerning sand filters, the improvements in design are not so striking, yet they are important, and should eliminate many of the complications encountered in the old-fashioned filters abroad where unsatisfactory results were occasionally obtained.

To gentlemen especially interested in the field of hygiene there is probably no question so important as that of the results accomplished by filtration in the reduction of water-borne disease among people using filtered water. In this connection the well-known experience with the Lawrence filter is very gratifying in that it has shown year after year, while in its normal operation, a typhoid fever death rate as low as that in the neighboring city of Lowell, which now derives its supply from pure underground sources. Similar experience has been gained at Albany since the completion of the very well-built sand filter at that place. As to mechanical filters very little experience has been gained with plants fully equipped with devices in accordance with the results of the investigations herein reviewed. The results of many thousands of analyses show that with both types of filters built and operated under favorable conditions there is practically no choice as to hygienic efficiency on an average. In winter mechanical filters are slightly superior, and in summer the reverse may be true.

At the beginning of the second decade of developments in this field it may be said that matters appear very bright indeed. The doubts and uncertainties of ten years ago have very largely disappeared. In Europe it has been learned that many of the former arguments against filtration were based on exceptional conditions caused by the arrangement of filters built fifty years ago. Progress there has been substantial, and we hear but little now of ground water or the mountain spring, except where such waters are obviously the most feasible. We have learned in this country that no such thing exists as a "cure-all," that is, a single type of purification works adapted to treat satisfactorily all types of waters; but we have also learned that purification works can be built to purify practically all types of water, and that satisfactory results can be predicted with confidence. That this confidence is shared by municipalities and citizens is shown by the great amount of construction work now going on and in early contemplation in this field, especially in the larger cities.

DISCUSSION.

DR. G. T. SWARTS, Providence, R. I.—The subject is one of the most important of those which come up for consideration before any health board, whether it be of a small township or of a large municipality. Sooner or later, almost every inland city is called on, through its health department, to make provision for a water supply of some sort, and the available sources are never what they should be. Filtration in a majority of cases, perhaps, will be required in order to put the water in good condition. This paper, dealing with the general drift of results, and giving a historical retrospect of all the different methods in a condensed form, makes it a valuable document, which will be eagerly read by sanitarians in general; and even those who are thoroughly familiar with all the details of the subject will be glad to find them given here in so condensed a shape.

It was very interesting to me personally, having visited the experimental plants in Louisville, Cincinnati and Pittsburg, to see the difference in the character of the waters and the facility, after a great deal of experimentation, with which these experts have handled a water which, as described by the previous paper, carries with it a material which makes a clay so fine that it admits of the introduction of a spade

with facility, and yet is elevated with a good deal of difficulty. It is a matter that comes up here differently than it does in the northern cities. There is here a fine silt which it is difficult to dispose of, and which will quickly clog any known form of filter. It is a point of interest to us and to the layman, looking on the Mississippi River water, watching it as it flows into the tubs of the hotels, to think that the time will come when it will be possible to dispose of that silt and raw material, and to get a white, clear water, as pure as that of any artesian well in the country.

I am glad to hear Mr. Fuller emphasize the fact that the introduction of sulphate of aluminum is not such a bugbear as was thought in the matter of the introduction of mechanical filters. That is one of the greatest setbacks we have had in the north, where it was impossible to show the people the necessity or desirability of using a coagulant. Of course, it is not always necessary to do so; yet it is possible, as I understand it, to thus remove a greater amount of the color from waters which are discolored by decaying vegetable and animal matter, stumps, etc., than without a coagulant.

In the city of Providence, where we want to get fifteen to twenty million gallons of water per day, we endeavored to introduce the mechanical method, but failed in the effort from the simple fact that the city took a sentimental view of the matter, and also, unfortunately, of the attack made on it by physicians themselves, bringing up this objection to the sulphate of alum. They wanted the water filtered in the natural way, as Nature filters it, not stopping to think that the water from artesian wells has been exposed to all kinds of chemical changes for years. Their idea was that the water had to pass through sand, as that was Nature's method; and therefore sand filtration was adopted.

It was a surprise to me to learn from this paper (if I have correctly understood it) that the manipulation of the water supply of New Orleans would cost less if mechanical filters were used. Of course, that was a great pleasure to me, being interested in mechanical filters. Another point that struck me was the simplicity of the operation. It can be handled by fewer individuals. It is not dependent so much on detailed work, such as is necessary in sand filtration, where a large number of operatives are required, who may not be familiar with all the branches of the subject, and are liable to contaminate the beds while they are being scraped.

I would like to inquire, with reference to the possible or probable time within which this filtration can be established. I want to know this in order to be posted when I am quoting the grand advancement made in the water and sewerage system of New Orleans.

MR. GEORGE G. EARL, New Orleans—Three and a half to four years.

DR. W. C. CHAPMAN, Toledo, Ohio—The advance in this science has been so great that the people have not been able to keep up with it. For several years I have been interested in the water supply of Toledo. I find great ignorance regarding filtration. One of our principal endeavors should be to enlighten the people on the subject.

Dr. Swarts speaks of coagulation by alum, which is strongly opposed by many in our cities because it is ignorantly supposed the chemical remains in the filtered water. We are about to take steps in Toledo to filter our river water, and we have had Messrs. Hazen and Benzenberg investigate as to the possibility of getting good water and from whence the supply should be taken. We have two sources of supply: the Maumee River and Lake Erie. The difficulty we have had to overcome is that many think Lake Erie water is pure; that it only has to be drawn into the houses by pipes. Investigation shows this is not true, and that to get good water filtration must be employed. Lake water is impure; the lake, being very shallow, is merely a large catch basin for the surrounding country.

We must instruct the people on the subject of water purification. We have overcome prejudice to a great degree in Toledo, so that a plant will be installed which will be large enough to supply water for 350,000 people. The water has

been tested by the State Board of Health. The state bacteriologist finds Maumee water can be purified so as to be potable and therefore healthful.

In my opinion, the mechanical filter is best for rivers with much sediment. Our river is different from the Mississippi. It becomes very muddy after a storm or a freeze and thaw, but it usually clears itself in from forty-eight hours to three days, and we then have clear water until after another storm. Subsidence takes place easily and therefore the necessary coagulant will be small in quantity.

DR. E. B. BORLAND, Pittsburg, Pa.—We know from examinations made in the last two decades that almost any contaminated water can be purified to a reasonable degree. Mr. Fuller alluded to the real filtration material, of which I expected to hear more; I refer to the albuminous gelatinous material and bodies of bacteria which form the real filter medium. No doubt he took it for granted that we were all acquainted with it and therefore merely alluded to it. I find the public, the laity in general, have no idea of the principal or real factor in sand filtration; when the material which gathers on the upper layers of sand becomes too thick and dense the upper inch can be removed and cleaned. I don't recall that Mr. Fuller referred to the cleaning of the upper layer of the sand filter, but I have no doubt that he expected us to know and understand that such cleaning is necessary.

I have been considerably interested in the subject of sand filtration, though not as much so as in mechanical filtration. In our experiments in Pittsburg in 1897 and 1898 three mechanical filters were tested alongside of two sand filter beds. The summary of the bacteriologic test was as follows:

The average bacterial efficiencies of filters on the respective systems, as developed by our tests, were an average of 99 per cent. for the sand filters, and from 97 to 98 per cent. for the mechanical filters. With the sand filters the efficiencies for the summer months and particularly those months when the number of bacteria in the raw water were highest, were very much above this average, reaching, during October, 1897, the remarkable efficiency of 99.96 per cent.

These experiments were carried on by the Pittsburg Filtration Commission, and an exhaustive report of 350 pages was made. The bacteriologist of the commission found as many as 57,000 bacteria to the cubic centimeter; and when there were 30,000 bacteria, 98 per cent. of them could be removed in the sand filters without a coagulant. The mechanical filters, as I have stated, with the coagulant made results of 2 per cent. less in efficiency, in the removal of suspended matter and bacteria.

Now, it has been said that the waters west and north have much less of this fine submicroscopic clayey material which Mr. Fuller and the gentleman who preceded him have emphasized. I can see why this factor demands attention in New Orleans and other cities in the south which are considering filtration. In Pittsburg, we have ordered the construction of sand filter beds, without the use of a coagulant, in accordance with the recommendation of the filtration commission.

DR. SENECA EGBERT, Philadelphia—I feel that this kind of work, represented by the papers we have heard to-day, is most highly educational, and that we ought to do all we can to disseminate such information. Much of the danger lies not in the cities but in what is being done in the country. There are many small towns whose water supplies can be very much improved by the adoption of modern methods of sewage disposal, as well as by improvements in the purification of the water. Almost every one of these communities would throw aside any suggestion of filtration, as being too expensive; but what we have to do, and the task that is specially incumbent on us, is to educate the profession throughout the country so they can make the local authorities realize that it is the highest economy possible to take these measures—not in ten years hence, but now—looking to the purification of the general water supply. Every town of five, six or eight thousand inhabitants ought to have clean water, and the cost is exceedingly small compared with the cost of sickness and mortality that result from typhoid fever and other diseases due to bad water. There is not a town in the country that could not improve its health status by attention to, and local appli-

cation of, the teaching of just such papers as we have heard to-day.

DR. F. J. MAYER, Lafayette, La.—So far as Louisiana is concerned, I can assure this body that from the Arkansas line to the Gulf the average drinking water is hardly fit for human consumption; the principal source of supply in the country districts is from rivers and branches, shallow wells and cisterns. The water from the last named source, when caught in seasoned cypress cisterns during the winter season, the spring and summer supply being shut off by automatic cut-offs, is really the most potable water we have. Outside of the Mississippi River, our river waters are not wholesome, though palatable. The Mississippi River is the largest body of potable water in the world, and wholesome and palatable when properly treated. The proof of this is that ship captains find that it keeps better in the tanks of their vessels when precipitated with an ordinary coagulant than any other water; and in antebellum days the creoles of this city kept Mississippi water in urn-shaped jars holding about fifty gallons. They in this way secured a very potable water supply by adding about 5 grains of alum to the gallon as a precipitant.

In our larger inland towns, like Monroe, which is supplied by the Ouachita and an artesian well, it is difficult to determine which is worse for drinking purposes. Some years ago, when the Ouachita was very low, I found that the intake pipe was within a few hundred feet of a private sewer that emptied into the river. A bacteriologic and chemical analysis of the two waters by Professor Metz, expressed in parts per one hundred thousand, exhibited 94,876 bacteria per cubic centimeter. On plating some of the cultures evidences of the presence of the *Bacilli coli communis* were found; also organic and volatile matter, 3.6000; nitrite 0.0040; nitrates. 0.0669; mineral matter, 8.4500; total solids at 240 F., 11.8000. The artesian water, though brackish and containing volatile and organic matter: 5.7000 parts, and 72.1000 parts mineral matter at 240 F. was the least dangerous, owing to the absence of nitrates and nitrites, and of the *B. coli communis*.

The shallow wells, which really constitute the largest supply to the farming population, are absolutely unpotable, in many cases reeking with microbial filth, sometimes sparkling with nitrates and nitrites, the result of animal decomposition; and yet the poor, deluded farmer imagines that he not only has a healthful water supply, but thinks it has medicinal properties on account of the gas sparkling in it, and on account of the odor resulting from decaying vegetable and animal matter, which he attributes to the presence of sulphur. There is no excuse for this, for at a depth of from 60 to 270 feet an abundance of potable water is to be found all over the state. So I think, as the last speaker said, it is absolutely requisite and necessary to educate the general public on these facts with which we are familiar, but of which they know nothing.

DR. W. G. OWEN, Whitecastle, La.—Dr. Mayer mentioned the fact that one of our chief sources of supply, all through the southern portion of the state, is cisterns, the water coming from the roofs of houses, bringing with it all the dust and dirt accumulated through a long drought. I have found this a very potent factor in the dissemination of typhoid fever. In fact, I have seen one instance where three or four members of the family were attacked with the disease, which continued to spread until they began to boil the water. That ended all extension of the fever.

DR. E. B. BORLAND, Pittsburg, Pa.—In the experiments in Pittsburg, the mechanical filters were operated with a coagulant, and the sand filters without it. I have no prejudice against mechanical filters, notwithstanding that we have had political corruption, as have other communities. I think almost any Pittsburg citizen will say that ours was a representative commission. There were on it scientists as well as politicians, and men of a high degree of culture and integrity; and while we are inclined in Pittsburg, as elsewhere, to criticise public officials, it is the consensus of opinion that the commission was unbiased in its report recommending the

use of sand filters. I agree with the proposition that different treatment is required for different water supplies.

MR. GEORGE W. FULLER, New York City—Replying to the discussion of Dr. Borland, in which he mentions the gelatinous materials around the sand grains, it is true that this is characteristic of sand filtration as ordinarily practiced with the waters of Europe and the northern portions of this country. Around the sand grains there are formed gelatinous films, and at the slow rate at which the water passes through the pores of the sand, the bacteria and other matters suspended in the raw water are detained by them until, in the instance of the bacteria, many of them die. Of course, a large number of bacteria are removed when the upper portion of this sand layer is removed by scraping. These scrapings are from time to time necessitated by the surface of the sand layer becoming clogged to such a degree that the regular volume of water can no longer pass through the sand layers.

With the waters of the south and central west the conditions are somewhat different, in that the organic matter capable of forming gelatinous films around sand grains in the sand filter is absorbed to a large degree by the sand, silt and clay in the water itself as it flows in the stream. Consequently, this material, so important in the behavior of the sand filter, is lacking for the performance of the work in filters where it is needed more than in the case of European waters.

Removal of the silt and clay in the muddy southern and central western waters by means of sedimentation in large basins, in order to allow filters to operate economically, of course, eliminates this organic matter still further; and the influence which it might produce on a sand layer if the water were applied directly is therefore lessened. Combining all of these influences and conditions, it is found that it is an essentially different proposition to clarify and purify successfully a water which is highly charged with silt and clay and lacking in organic matter, from what it is to purify a fairly clear water which is capable of supplying organic material capable of producing gelatinous films by natural means around the sand grains in a sand filter. This, perhaps, may make it somewhat clearer why it is that in certain waters it is so essential to produce artificially the gelatinous materials for the detention and removal of bacteria, and such as is provided by aluminum hydrate resulting from the decomposition of sulphate of ammonia.

As to the question of the mechanical filters during the Pittsburg tests having shown somewhat lower efficiency in the removal of bacteria than in the case of the sand filters, it is to be borne in mind that the degree of bacterial removal by mechanical filters is largely a function of the quantity of coagulant applied. Had there been applied during the Pittsburg tests a somewhat greater quantity of coagulant, there is no reason whatever to believe that the removal of bacteria by the bacterial filters would not have equaled that obtained from the sand filters. During the development of our practical knowledge of mechanical filtration during the past few years, there is no feature the importance of which has grown on us so much as the imperativeness of providing at all times an adequate quantity of coagulant. In the early days of mechanical filtration on a practical scale this was not done, and to-day this criticism can be made of many plants. It also may be said very frankly that occasionally throughout the elaborate tests conducted both at Pittsburg and Cincinnati, the quantities of coagulant were not sufficiently high to place mechanical filtration in its best light.

Different waters unquestionably require different methods of treatment. For some waters sand filters are best, and for others mechanical filters are best, in each instance making due allowance not only for equal efficiency from a hygienic standpoint, but also for cost of installation and operation.

To Remove Perspiration Odor.—A dram of formaldehyd to a pint of water sponged about the genitals and axilla will remove the odor of perspiration. A stronger solution will check excessive perspiration and fetor of the feet.—*Medical World.*

MEATOTOMY PLUS MEATORRHAPHY.

JOHN PRENTISS LORD, M.D.

Professor Surgery, Creighton Medical College; Attending Surgeon, St. Joseph's Hospital, and Consulting Surgeon, South Omaha Hospital.

OMAHA.

The incision of the urethral meatus in the male often becomes necessary to allow of the passage of urethral instruments, especially for sounds and catheters of large size, for urethrosopes and cystoscopes, the segregator, etc. In the days when meatotomy was required for the passage of sounds principally this operation seemed to satisfy. But now that the surgeon must wait until healing of a meatotomy wound takes place before proceeding with his refined methods of diagnosis, the slow process of healing by granulation and the necessary daily separation of these divided surfaces which lie in contact and which reunite immediately unless torn apart by force, is tedious, usually bloody, and daily inflicts an amount of pain poorly borne by the patient, and the result is apt to be imperfect for obvious reasons.

The writer recognized these objections several years ago and began suturing meati whenever a meatotomy was done. Four or five 00 catgut interrupted sutures were used. The hemorrhage, which may be rather free

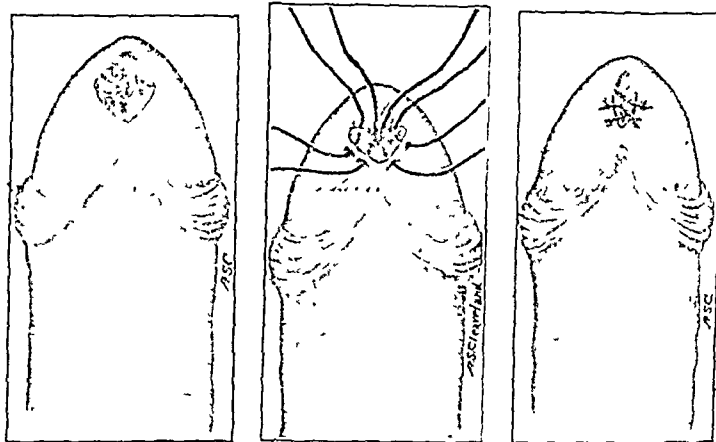


Figure 1.

Figure 2.

Figure 3.

or even serious in some cases, is immediately arrested. Healing has always been primary. The case requires no after-care, the patient is saved much suffering, the surgeon unpleasant and unnecessary responsibility, and it is unnecessary to divide the tissues so deeply to get the same results. If it is done to enable the surgeon to use the cystoscope, this instrument can be used in a day or two without blood smearing the lamp, which would interfere with the examination.

Works on surgery describe the operation of meatotomy and recommend the daily introduction of a sound to prevent union of the apposed wound surfaces; and recent works on genito-urinary surgery follow in the same rut.

An extended search by the writer fails to disclose any suggestion of meatorrhaphy. A considerable inquiry among the writer's friends also fails to find any use or recommendation of this simple measure, and the writer is surprised that he is obliged at this writing to consider himself its author. It has been practiced by him for several years, and not until his curiosity was excited by failures to find it done by others has he deemed the matter of enough importance to present it to the profession. It is herewith presented as a small contribution to surgical advancement, and even though in prior use it is desirable that attention be directed to so simple and

valuable an operation, evidently now unused by the profession, which is ever ready to avail itself of even the slightest detail of surgical technic that will add aught to the sum total in the refinement of its art.

Since writing the above, a renewed search has disclosed the following in Tillmann's work on surgery: "Stenosis of the external meatus with a corresponding difficulty in urination is comparatively common. This can be easily remedied by incising the meatus toward the frenum and suturing the edges of the glands to the mucous membrane of the urethra. In the more marked cases one may dissect up the urethral mucous membrane and then suture it to the skin."

Notwithstanding that this last paragraph destroys all claim of priority, which is after all but a small matter and one too much coveted, the writer feels constrained to bring this to the attention of the profession, believing that a service will be done thereby.

New Instrument.

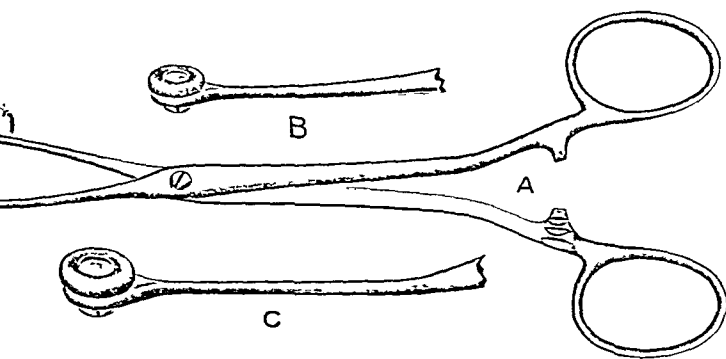
A RUBBER-JAWED INSTRUMENT FOR ABDOMINAL SURGERY.

CHANNING W. BARRETT, M.D.

Professor of Gynecology, Chicago Clinical School; Adjunct Professor of Gynecology, College of Physicians and Surgeons (Medical Department, University of Illinois); Assistant Surgeon Marlon Sims Hospital.

CHICAGO.

Surgeons feeling the need of an instrument that would handle without injury the delicate abdominal organs and hold them firmly yet gently, have made efforts to produce such an



A. The smaller forceps, two-thirds actual size. B. The jaw of the smaller forceps, actual size. C. The jaw of the larger forceps, actual size.

instrument temporarily by wrapping the jaws of the forceps with gauze. This is troublesome and bungling. Rubber sheaths have been prepared, but these fit the forceps loosely, do not sufficiently protect the tissues from the serrations on the jaws, are insecure in their hold, etc. Instruments with flat, smooth surfaced jaws have been made, but they crush tissue or take an insecure hold.

The accompanying illustration shows a forceps devised by the writer and used with great satisfaction. The shanks are constructed to give the proper spring, allowing the sensitiveness of touch to be used to the fullest extent. Two sizes are being made, for lighter and heavier work. The jaw consists of three parts: 1. The steel cup at the distal end of the forceps, its concavity looking toward the opposite jaw. 2. A moderately firm rubber disk, cupped on the opposing surface. 3. A screw and nut which fastens the rubber disk to the jaw. The nut is tightened on the external surface of the jaw so that the screw head on the internal surface is imbedded in the rubber disk, leaving a circular ridge of rubber to meet a like circular ridge on the opposing jaw, each with a cupped center. The forceps are so constructed that with the first catch on the

handles the jaws just fail of meeting each other, coming together with the second catch and compressing each other with the third.

This, then, with elastic rubber jaws and light steel shanks, makes a forceps with which the delicate organs may be securely picked up without injury to the peritoneum or deeper structure. The rubbers will stand a number of boilings and when past their usefulness may be easily removed and replaced by another set. The construction of the forceps is such that the rubbers can not come off at an inopportune moment. It is surprisingly tenacious in its hold, even with the lightest bite, on wet, slippery tissues.

By the aid of these forceps one is enabled to do much of the abdominal surgery through a smaller opening or through the same opening with greater ease. The appendix, tube, bowel or ovary may be grasped and brought to the opening, using one finger as a guide. Should one bring up the wrong organ or tissue the grasp has done no harm; it may be released and another trial made. It is an efficient aid in suprapubic, double inguinal or vaginal celiotomy. It makes a useful instrument for holding the tube or ovary for resection, or the uterus for removal of fibroid. It may be used for picking up an injured ureter or a surgical gall duct or gall bladder. In pus tube it may be set on the broad ligament, leaving the pus tube between its shanks. A bowel may be held in the same way, setting the forceps on its mesentery. It lessens the amount of intra-abdominal manipulations, the instrument being used when otherwise the hand would be. I recall vividly the characteristically emphatic remark of the late Dr. Fenger to his assistant: "Don't I tell you a thousand times never to use your fingers when an instrument can be used?" This instrument does away with some of the necessity for rubber gloves and makes manipulation easier, providing they are worn.

It suggests itself as being useful for surgery in many other regions, if made in proper sizes and special shapes.

100 State Street.

The Contract Doctor.—The editorial in THE JOURNAL of the American Medical Association for April 11, 1903, entitled "The Battle of Clubs," should be read before every medical society throughout America, and serve as a clarion note of warning to the profession in this country, against the insidious but sure approach of an evil which, unless stopped, will sap the life blood of the profession, as it has done and is doing in Europe, where physicians are reduced to the degradation of making visits to well-to-do members of clubs for the beggarly fee of "8, 6, or even 4 pfennig" per visit. These clubs are organized with "the obvious object of reducing physicians' fees to the poor. Instead of being the recourse of the really poor, to whom a reduction of medical fees would be really justifiable, these societies are utilized by the well-to-do, thus defrauding the profession of its legitimate earnings." Now, in this country, as far as it has gone, it is even worse. Scores of societies, lodges and so-called protective and benefit associations have been and are being organized, not among the poor, but among well-to-do laboring classes and even including in their organization a class of more than well-to-do merchants and office employees. The principal aim of all these organizations is cheap medical service, with some benefits of secondary importance, while in many of them the object, pure and simple, is cheap medical service. In no other profession would such a condition of affairs be possible, and the cry of "commercialism" will not much longer be sufficient to quiet the protests that will come before our various societies, against the growth of this shameless, open underbidding of one alleged reputable physician against another, for the privilege of serving well-to-do people for a pittance. We, as a profession, all stand ready and willing to aid the suffering poor, and will always do more true charitable work than any other profession in the world, but charity does not demand that we make professional visits to people who are earning from forty to two hundred dollars a month for fifteen or even less than fifteen cents a visit and perform serious surgical operations for the same price.—*Northwest Medicine.*

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THE ROLE OF SODIUM CHLORID IN THE PRODUCTION AND TREATMENT OF EDEMA.

Always a puzzling problem to pathologists, the processes involved in the production of edema seem to have been in part clarified by progress in the application of physical chemistry both to theory and practice, and the results have been made to yield much of practical value in the hands of French and Italian clinicians. Several years ago Loeb urged the importance of osmotic disturbances in accounting for edema, as of more significance than the merely mechanical factors of increased vascular pressure. According to him, the chemical changes occurring in tissues with oxygen supply decreased through venous stagnation, accounted for far more of the extravasation of fluid into the tissues than did the increased filtration that might result from the heightened vascular pressure present in the capillaries in any passive congestion, no matter how severe. Under conditions of decreased oxidation the normal steps of metabolism are so interfered with that there results an accumulation of soluble substances. On account of their concentration in the fluids of the cells and the tissue spaces there develops a rise in osmotic pressure in the tissues which leads to diffusion of fluids from the vessels to bring the osmotic pressure of the tissues into correspondence with that within the vessels, and a condition of edema is produced. The importance of this osmotic pressure was shown strikingly by Loeb in the observation that osmotic changes could readily be brought about in the muscles, causing a pressure more than 200 times as great as the maximum rise in pressure that can be produced in the pulmonic circulation by completely occluding the aorta. Such a comparison serves well to give the person unacquainted with the enormous forces of osmosis an inkling as to their great power.

Edema of nephritis has been perhaps most commonly ascribed to an inability of the kidneys to eliminate fluids, which, retained in the body, waterlog it into a condition of edema. The high blood pressure of the renal disease might also have been considered as leading to increased filtration into the tissues, as is supposed to be the case in obstructive edemas, were it not that interstitial nephritis with its high blood pressure usually has less edema than the parenchymatous form with a lower pressure. Injury to capillary endothelium by retained toxic substances has been considered to cause

abnormal permeability with accumulation of plasma in the tissues. But none of these explanations has been altogether satisfactory. Determination of the molecular concentration of the urine by means of ascertaining its freezing point or its electrical conductivity has added not a little to an understanding of osmotic conditions in various renal diseases and their importance. Rather unexpectedly, perhaps, it has been found that sodium chlorid excretion and retention has possibly more to do with the disturbances of osmotic pressure in the tissues than any other ingredient of the urine.

If sodium chlorid is administered by mouth to a healthy individual the elimination of the salt is found to correspond pretty closely to the ingestion. In nephritis, however, this is far from the case. With interstitial nephritis the reaction is quite variable—in some cases the elimination increases and in some it does not, just as we have interstitial nephritis with and without edema. In parenchymatous nephritis, however, in which the predominating changes are in the secreting cells, the sodium chlorid output, generally much below normal, is not increased nearly in proportion to the amount taken in, and often there is no response at all. That the edema of nephritis bears a direct relation to this sodium chlorid retention is shown by the effect of administration or withdrawal of the chlorid from the diet of patients with edema. Deprivation of salt nearly always leads to a marked decrease in the edema while administration of salt is as promptly followed by increase in the swelling. Widal experimented with one patient, and by dietetic measures alone was able to alternately increase and decrease the amount of edema no less than nine times in a period of 62 days.

From these observations it would seem that in parenchymatous or epithelial nephritis the cells are less than usually permeable to sodium chlorid, as well as to other substances to perhaps a different degree. The sodium chlorid, accumulating in the blood, prevents elimination of water which is retained to keep the molecular concentration as nearly normal as possible. In other words, the water is retained not so much because the kidneys are at all impermeable to it as because they are impermeable to the salt. And, conversely, it is incorrect to assume that in parenchymatous nephritis the small excretion of solids is due to an insufficient elimination of water to carry them out. As the edematous fluids of the tissues have been found to contain more chlorid than the blood serum, it may be that the tissues have a greater affinity for the salt than has the blood, and as it accumulates in the tissue the water will accumulate there likewise.

Application of these facts to the treatment of edema has been most profitable. A diet poor in salt has been found very effective in the treatment of the dropsy of parenchymatous nephritis, and perhaps the best of such diets is milk. The success attained by the empirical use of milk is thus found to be due principally to its low

content of salt. It is not a matter of quantity or quality of albumin in the diet, for a meat diet without salt will decrease edema as quickly as a milk diet, while the addition of salt to the milk will cause the edema to recur rapidly. The French physicians who have given this matter its most complete test advocate the selection of certain cows for the milk supply and depriving them of salt, although this is not by any means essential for good results. Since the salt and not the albumin is the important factor in the diet, it is possible by judicious choice and preparation to secure quite a wide range of diet for the nephritic. Nor is parenchymatous nephritis alone to be benefited in this way. In cardiac dropsy, which was formerly supposed to be entirely a matter of increased blood pressure effects, the elimination of sodium chlorid is greatly impaired, apparently because of alterations in the renal epithelium resulting from the vascular stasis. Interstitial nephritis accompanied by dropsy is, of course, also to be considered in the same category, and in both of these good results have been obtained by the process of "dechloridation." In typhoid, pneumonia, and some other febrile diseases, there is also a retention of chlorids, whether from renal alterations or some other cause is not known. On this account it occurred to Chantemesse that the phlegmasia alba dolens of typhoid might be to a large extent the result of this hypochloruria, and he treated several patients on this basis with excellent results. The thrombosis itself, which he considers as rather a predisposing than an actual cause of the edema, seemed to disappear with great rapidity under this treatment. Again, the determination of the power to eliminate sodium chlorid, particularly the reaction of the elimination to changes of diet, is of much prognostic value. Courmont considers it of more value than the methylene blue test as an indicator of renal condition. Although so far this method of treatment has been chiefly utilized by the French and Italians, it promises so much relief, and is so entirely in accord with the facts already obtained both empirically and experimentally, that we may hope for more extensive application and reports as to its limitations.¹

THE ANTITUBERCULOSIS CRUSADE.

The first lecture under the auspices of the Phipps Institute, Philadelphia, was delivered by Dr. E. L. Trudeau of the Adirondack Sanatorium. It was a happy idea to open the public campaign against tuberculosis with such an utterance² by a man to whom we owe more than to any one else—we think we can safely say—the movement for the sanatorium treatment of consumption in this country. Within only a few years have most of the institutions of this sort come into view, but the

Adirondack Sanatorium under Dr. Trudeau began as early as thirty years ago, when he, himself a seeker for health, sought the salutary climate of the Adirondack wilderness. The history of his efforts and the building up of the institution over which he now presides from its small beginning to its present development and international reputation is intensely interesting. It is a record of persistent effort and we may say of heroic philanthropy. The amount of self-sacrifice involved can be conceived best when we understand that the support of the institution from the beginning has depended on Dr. Trudeau's efforts, aided, as he says, by the able and often disinterested and self-sacrificing friends and assistants that from time to time he has had to call to his aid as the institution enlarged. He has kept the expenses to the patient within the limits of moderation notwithstanding the cost, and an annual yearly deficit has been made up to him by subscriptions from grateful ex-patients and whole-souled wellwishers of their race in the eastern cities. The therapeutic success of the institution has far outweighed its financial success. He shows that at least one-third of his patients have practically recovered and still a larger proportion have had their disease arrested or been materially improved. It is only a few years since the popular and even the medical idea of tuberculosis was that recovery from the disease was at best a happy accident and that therapeutic means, aside from certain climatic influences, were practically unavailing. If any one has helped to show the falsity of this idea in this country it is Dr. Trudeau.

Not the least interesting part of his lecture is the history he gives of his scientific work in the study of tuberculosis, in which he was practically a pioneer in this country as well as in the sanatorium treatment of the disorder. It is unnecessary to say that his work has been fruitful and that he anticipated in many respects the later work for which so much credit is now being given to Behring. That this work was done with the small facilities at his command is another instance of the often-demonstrated fact that the born investigator is to a certain extent independent of the highly-organized and elaborate facilities which modern research now seems to demand. Now, however, that Dr. Trudeau and his assistants have a well-appointed laboratory, we shall look for still better and more complete work in the future. Not the least important feature of the sanatorium work for which the Adirondack institution is largely responsible is the education of the public that it affords. It has been a sanitary missionary agency of the very highest rank and the lessons it has taught have not been confined to its immediate neighborhood or to this country alone, for wherever the treatment of tuberculosis is discussed the Adirondack Sanatorium results are quoted.

Whether or not we agree with some sanguine workers that our efforts are toward the complete eradication of tuberculosis as a scourge of humanity, there is no ques-

1. Original papers, several of which have already been abstracted in *THE JOURNAL*, can be found in the *Bull. Soc. Méd. des Hôp. de Paris*, June 12 to 26; the *Lyon Médical*, July 12 and 19; *Semaine Médicale*, June 24 and July 29, and others later, all of this year.

2. *Medical News*, October 24.

tion that the intelligent efforts now being made have already robbed this disease of many of its terrors and promise to still more reduce its mortality and render it, possibly in the not too distant future, a comparatively negligible factor in the death rate in civilized communities. Dr. Trudeau's lecture stands, therefore, as a sort of landmark showing what has been done and giving promise of what is yet to be done. A series of lectures of which it is the opening one will be continued, we understand, monthly, by such men as Drs. Osler and Gibbs of this country, and Pannwitz and Maragliano from abroad, with possibly Drs. Calmette of Lille, or Dr. William H. Welch, in addition.

It is not simply the outdoor life at the sanatorium, as Dr. Trudeau has in his practice and teaching all along pointed out, but also the close medical care and supervision, guided by thoroughly scientific study of the disease, that is required to rescue the victims of consumption and make the disorder itself less harmful. The publication of these lectures will go far, we think, to instill correct ideas in regard to the disease; there is need of this, for even in the profession itself there are many exaggerated and irrational notions extant in regard to its dangers and its avoidance. A crusade against tuberculosis, to be effective, must be thoroughly rational and must not be vitiated in any degree by the exaggerated and panicky fears that are encouraged by some of the writers on the subject. Dr. Trudeau has long pointed out by his Saranac experience that the dangers of communication of tuberculosis are easily avoidable, and he has also demonstrated that the established disorder itself is to a large extent amenable to therapeutic means at our command.

MEDICAL ASPECTS OF THE CHILD LABOR QUESTION.

At the recent annual meeting of the National Conference of Charities, Mr. Frederick L. Hoffman made some statements which are of interest to physicians. Mr. Hoffman is the statistician of a well-known life insurance company which makes a specialty of what is called industrial business, i. e., insuring working people and children for small amounts. His paper was entitled, "Medical and Social Aspects of the Child Labor Question." His first point is the lack of definite, trustworthy statistical evidence as to the effect of early labor on the physical and mental development of children, yet, as he reminds us, it is entirely practicable to obtain such evidence, and he urges that the whole matter be made the subject of a governmental inquiry. He says:

The available statistical evidence, while not as complete as would be desirable, seems to prove conclusively that occupations with a trade life commencing very early, such as the textile industries, potteries, etc., experience an excessive death-rate at ages 15 to 24, and in many instances throughout life. . . . The laws of growth and the relation of health to growth are now so well understood that it would not be at all difficult to ascertain whether children employed at different trades are really physically injured, or stunted in their growth, or hindered in their development, physically as well as mentally,

by such employment. It certainly would appear to me a paramount duty not to legislate along radical lines unless the basis of such legislation is all-convincing and established beyond the question of a possible doubt.

He also points out the fact that certain injuries and defects at least accompany the early school attendance of children, and in this connection he quotes Dr. Johnston of Washington, D. C., who believes that school instruction is commenced at too early an age, and who sums up the evidence thus far gathered as to the effect of school life in causing eye troubles, headache, sleeplessness and minor nervous disorders, and suggests that the beginning of formal school instruction should be at the age of 8 years, with the hope of avoiding overstrain of immature organisms.

On this subject, as well as on the subject of early child labor, there is much popular discussion of a very earnest sort which, however, entirely lacks a basis of carefully ascertained and analyzed facts. Mr. Hoffman is certainly right when he says that we need a body of reliable statistical evidence as to the effect of mental and physical labor of various kinds on the development of children. It is understood that a request for the appointment of a commission to obtain such evidence has been submitted to President Roosevelt. It is comparatively easy to secure the appointment of a federal commission, but not so easy, as experience has shown, to obtain from it the results its promoters desired. In this case if a commission were secured it would be especially the duty of the medical profession to urge the necessity for employing in such work the best scientific methods. A well-selected commission with adequate powers could certainly make a valuable contribution on which for a long time to come all efforts for reform in the legal protection of children should be based.

EUTHANASIA.

Every little while some misguided philanthropist comes out with a proposition to shorten the period of suffering of hopeless invalids, by gently putting them out of the way. The latest is from a New York clergyman in an address before a medical body. It is said that about one-third of the audience applauded him, but the applause, we take it, was not shown for this particular sentiment, but for the orator or the oratory. There is only one point of view the medical man can take on this subject, viz., that he has no right to trifle with a human life or shorten it by a second. Surely no thinking person can take any other stand. If it should be considered right to assist people out of the world on the pretense of saving them from suffering, the possibilities of using this plea by unscrupulous persons would become appalling. There are enough ways to relieve suffering without compromising life, and only such are legitimate. It is true that some people seem to live too long and that, on a purely utilitarian basis, old people past their productive period could be easily disposed of, but this is not the tendency of modern civilization. Any civilization that adopted such a course would be taking a long step backward toward savagery.

BRITISH AND AMERICAN ENGLISH.

There is a certain formula in use by the British reviewer of American books that reads something like this: "The English reader will, of course, be offended by the eccentricities of spelling affected by our transatlantic confrères," or something to that effect. It is interesting, therefore, in this connection to note a comment by the editor of one of our British contemporaries¹ which in a way criticises the spirit of conservatism in regard to all suggestions toward a simplification of the orthography of the language. It has its little fling, saying that "our American cousins, having no history and possessing no proprietary right to the language, being, in fact, only lodgers, so to speak, display no sort of reluctance to tamper with the ridiculous redundancies which our forefathers have bequeathed to us, and which our schoolmasters persist in maintaining to the discomfiture of the scholars and the curtailment of more useful studies." Aside from the little inaccuracies as to our proprietorship in the language, etc., the sentiment of the above quotation is good and "ridiculous redundancies" especially so. English as it is written in England, as well as "English as she is spoke" in that island, has its defects, and in neither case is it always and in all respects the best type of the common language of the Anglo-Saxon race. The British editor suggests that whether his countrymen like it or not, they will ultimately have to adopt the abbreviated transatlantic orthography. We hope that the change will be an earlier one than he seems to anticipate. It will not require any serious alteration of the mother tongue to make it a little less cumbrous in its spelling than is the prevalent insular British practice.

PLAGUE TREATMENT BY CARBOLIC ACID.

The ordinary dose of carbolic acid is usually given as from 1 to 3 drops, and 6 or 7 drops have been reported as producing very unfortunate symptoms, while half a dram is said to be almost inevitably fatal unless met by immediate adequate treatment. Nevertheless, we occasionally hear of what seems to be excessive dosage of this powerful agent. The Baccelli treatment of tetanus is an instance of rather heroic dosing, but the most remarkable usage of the remedy is reported from China in the treatment of plague. In a communication which is editorially noticed in the *Journal of Tropical Medicine*, October 1, Dr. J. C. Thompson reports treating cases of plague in Hong Kong with carbolic acid and in quantities of 144 gr. daily, divided into bi-hourly doses of 12 grains each. With these enormous doses he said he expected to see evidences of carbolic acid poisoning frequently appear, but it was practically unknown in his cases. In a few cases carboloria appeared, but the remission of one or two doses caused the symptoms to cease. Given well diluted, dyspeptic symptoms did not appear. As the result of his observations in 143 cases he believes this is the most hopeful method of treating plague thus far tried in Hong Kong and that carbolic acid is of undoubted value when given in doses sufficient to allow its concentration in the blood to exert its antiseptic action on the bacilli. It is not considered by him,

however, as a specific remedy, but as an important aid in the treatment of this so generally fatal disorder. It is a matter worthy of investigation to determine, as the editor of the *Journal of Tropical Medicine* says, whether the toleration of these heroic doses by plague patients is a peculiarity of the disease or whether we must revise our ideas of the toxic character of the drug. We know that in many conditions a remarkable tolerance to certain agents is obtained and there is probably no reason for us to alter our ideas as to the dangers of carbolic acid under ordinary circumstances. If, however, the drug proves to be of as great value as these experiences indicate, the discovery is an important one.

Medical News.

ALABAMA.

Did Not Report Smallpox.—A negro employe of the Mobile postoffice was fined \$10 for failing to report to the board of health the presence of smallpox in his family.

College Loses Appropriation.—The governor failed to sign the bill appropriating \$20,000 to aid Mobile Medical College. He declared that he did not believe the bill received the constitutional majority, and that, further, he did not see that the source of the money had been provided.

Quarantine Ends November 1.—At a meeting of the Quarantine Board of Mobile Bay, the action of the Louisiana Quarantine Board was agreed to, which lessens, after October 15, quarantine regulations applying to Central American ports, and practically abolishes quarantine after November 1.

Personal.—Dr. Frank A. Lupton, Birmingham, has been elected a member of the board of censors of the Jefferson County Medical Society, vice Dr. Edward P. Riggs, resigned. —Drs. Emmet K. Moon, Anniston, has been appointed county physician and Dr. William B. Arbery, Jacksonville, has been made physician to the county poor house of Calhoun County.

Colleges Open.—The Medical College of Alabama, Mobile, opened for its thirty-eighth annual session, October 8. Dr. George A. Ketchum, dean, delivered the address. —Birmingham Medical College opened for its tenth annual session, October 1. Dr. Benjamin L. Wyman, dean, Dr. Russell McW. Cunningham, lieutenant governor of the state, and Dr. John C. Le Grande, were among the speakers.

CALIFORNIA.

Anti-Expectoration Ordinances.—Ordinances prohibiting expectoration on sidewalks in San Rafael, under penalty of \$25 fine, and on public conveyances in Sacramento under penalty of \$50 fine, have been introduced.

Physician Exonerated.—Dr. R. E. Freeman, San Jose, against whom a complaint for performing a criminal operation had been made, has been discharged from custody, the preliminary examination having failed to sustain the charge.

Hospital on Wheels.—The San Pedro, Los Angeles and Salt Lake Railroad has added a hospital car to its equipment, fully equipped with medical and surgical supplies, and provided with an operating room, dispensary, private rooms and a ward.

Damage Suit Collapses.—In the suit brought by Martin Lathrop against Dr. Samuel J. Hunkin, San Francisco, in which the plaintiff claimed \$50,000 damages for alleged malpractice, the plaintiff failed to appear, and the judge ordered a verdict for costs for the defendant.

Santa Ana Hospital Association.—At the annual meeting held October 9, the board of managers was re-elected, and Dr. John L. Dyer was elected president; Dr. Howard S. Gordon, vice-president; Dr. James P. Boyd, treasurer, and Dr. Charles D. Ball, secretary. The capital stock of the association was increased from \$10,000 to \$25,000.

San Joaquin Valley Medical Society Meets.—At the sixteenth semi-annual meeting held in Fresno October 13, the following officers were elected: President, Dr. James A. Moore, Hanford; vice-presidents, Drs. Robert E. Bering, Tulare, Harry W. Taggart, Stockton, and R. O. P. Phillips, Kingsburg, and treasurer, Dr. Thomas M. Hayden, Fresno. The secretary and assistant

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secretary held over. After the meeting the society was banqueted by the Fresno Medical Society.

College Year Begins.—The College of Medicine of the University of Southern California, Los Angeles, opened for the fall term, October 8. The following changes in the faculty are announced: Dr. Walter Lindley, professor emeritus of gynecology; Dr. Carl Kurtz, professor of, and Dr. Wesley W. Beckett assistant in gynecology; Drs. David C. Barber, George L. Cole and W. Jarvis Barlow, professors of clinical medicine; Dr. Joseph Kurtz, professor of therapeutics; Dr. Randall Hutchinson, assistant professor of physical diagnosis; Dr. Stanley P. Black, professor of histology and pathology, and Miss E. L. Leonard, lecturer on histology and pathology.

Personal.—Dr. John R. Haynes, Los Angeles, has returned from England.—Dr. Andrew W. Hoisholt of the state hospital staff, Stockton, has returned from Germany.—Dr. Titian J. Coffey, Los Angeles, has returned after six months in the east.—Dr. Oscar W. Steinwand has been appointed city health officer of Selma.—Dr. and Mrs. Peter Jauss, Los Angeles, have returned from a six months' tour of northern Europe.—Dr. William J. Young, Stockton, has returned from Germany.—Dr. Joseph W. Jauch has returned after a four months' sojourn abroad.—Dr. and Mrs. F. R. Orella, San Francisco, have returned from Europe.—Dr. Albert S. J. Smith, San Jose, has gone to Europe to study for a year.

CONNECTICUT.

Personal.—Dr. Charles S. Stern, Hartford, chief medical inspector of the board of health, has resigned, and will go to Europe.

Forfeits Bail.—Dr. Edmund I. Thomson, New Haven, charged with performing a criminal operation, was not present when his case was called, and his bond of \$1,500 was declared forfeited.

Connecticut Members of the Association.—At the second annual meeting of Connecticut members of the American Medical Association held at Savin Rock, October 13, Dr. Charles J. Fox, Willimantic, was elected president; Dr. Gustavus Eliot, New Haven, vice-president, and Dr. James M. Keniston, Middletown, secretary.

Gives Hospital to Greenwich.—Robert E. Bruce and his sister Sarah E. Bruce of Greenwich, have given a plot of land for a contagious disease and emergency hospital to the town. On the land are four buildings, one for smallpox, two for other contagious diseases and one to be used as an emergency hospital. The property is valued at \$75,000.

DISTRICT OF COLUMBIA.

Barnes Hospital Addition.—An addition to Barnes Hospital at the United States Soldiers' Home has been contracted for at a price of \$190,131.

Army War College Building Recommended.—The Secretary of War will recommend to congress an appropriation of \$300,000 for the erection at Washington of a general military hospital and a similar amount for the Army War College.

Medical Supervisors Want Pay.—The board of medical supervisors and the various medical examining boards do not wish to serve longer without pay and they have asked for an appropriation of \$2,500 from congress in order that the supervisors and examiners may each be paid at the rate of \$10 for every meeting attended.

Health of District.—The report of the health officer for the past week shows the total number of deaths to have been 102, of which 65 were white and 27 were colored. There were 68 deaths, of which 38 were white and 30 were colored. There were 16 cases of diphtheria, 19 of scarlet fever and 210 of typhoid fever under treatment at the close of the week.

GEORGIA.

Offers to Take Father's Place.—Dr. Walter P. Rushin, Albany, has written the governor offering to serve out the life sentence for murder for which his father is now imprisoned in the state penitentiary.

College Opens.—Georgia Medical College, Augusta, opened for its seventy-second annual session, October 1. Dr. James B. Morgan delivered the address on "Higher Medical Education and the Prevention of Disease."

Smallpox in Middle Georgia.—Dr. H. F. Harris, secretary of the State Board of Health, reports that he found smallpox in every town he visited during a two weeks' tour of southern middle Georgia. He urges compulsory vaccination.

Fatal Hospital Fire.—A fire in the Grady Hospital, Atlanta, destroyed the male and female wards for colored people early on the morning of October 17, and only prompt and heroic action on the part of the hospital staff and employes, firemen, police and citizens prevented great loss of life. One negro woman, who was very sick, died after her removal from the hospital.

ILLINOIS.

Wabash Hospital Open.—The Wabash Middle Division Hospital, Decatur, was opened to receive patients October 5.

Hospital Dedicated.—The new addition to St. Elizabeth's Hospital, Danville, was dedicated, October 13, with appropriate ceremonies, following which a banquet was served to the staff and the visiting clergy by the Sisters of St. Francis.

Personal.—Drs. Henry W. Kendall, Quincy, and Albert G. Pickett, Chicago, were elected medical advisers of the Fiftieth Illinois Infantry, at its recent reunion.—Dr. Walter J. Brown, Danville, has been commissioned first lieutenant and assistant surgeon in the Illinois National Guard, and assigned to the artillery battalion.—Dr. Thomas N. Miller, Rockford, fell from a tree, October 8, and injured his spine.

Smallpox Thriving.—Dr. Joseph E. Kunkler, Bloomington, reports 23 cases in two public schools, the schools were ordered closed and an ordinance providing for compulsory vaccination was introduced in the city council, October 23.—Westfield has 17 cases in the isolation hospital, and a number quarantined at home. Public meetings have been prohibited and the public schools closed.—Dr. Heman Spalding of the Chicago Department of Health, after inspection of the situation at Lemont, reports that there are at least 25 cases there. Schools are closed and public meetings forbidden.—Belleville is reported as having 25 cases, with 4 deaths, and Freeburg, 3 or 4 cases.

Chicago.

An Award of Twenty Per Cent.—In a suit for \$5,000 brought by Dr. Alexander Hugh Ferguson against Frank L. Loring and wife, for services rendered, the jury awarded the plaintiff \$1,000.

Increase in Diphtheria.—Diphtheria continues to increase—106 cases being reported, as against 89 during the previous week. Reports come from all parts of the city, but the north-west section is most affected. Measles, scarlet fever and whooping cough are at a minimum.

The Week's Mortality.—For the week ended October 24, 442 deaths were reported, an annual mortality rate of 12.21 per 1,000, which compares favorably with 12.68, the rate of the previous week and 13.83, the rate for the corresponding week of 1902. Consumption, as usual, leads with 52 deaths; pneumonia follows with 49. Other principal causes were violence, 40; Bright's disease, 38, and heart disease, 32.

"Murderous Pneumonia."—In the current issue of the bulletin of the Chicago Department of Health is the following:

The community is again facing the beginning of the murderous pneumonia season. Between the last of this month and the close of next May upward of 2,100 persons will die of pneumonia in Chicago, while from consumption—the "great white plague," which is practically monopolizing the attention and the efforts of the laborers in the field of preventive medicine—there will hardly be more than 1,300 deaths during the same period.

Since the beginning of the last great pandemic of influenza, in 1889, there have been 33,861 deaths from pneumonia in this city and 29,980 from consumption—an excess of 11.4 per cent. of pneumonia mortality. During this period, that is, the last thirteen years, 1890-1902, the deaths from pneumonia have increased from an average of 117 in the 100,000 of population during the previous thirteen years, 1877-1889, to 179—an increase of nearly 53 per cent. Corresponding figures for consumption are 171 per 100,000 in the first period and 160 in the second—a decrease of a little more than 6 per cent.

MARYLAND.

Personal.—Dr. William L. Lewis, Kensington, has been appointed health officer for Montgomery County and secretary of the board of health in place of the late Dr. E. E. Stone-street.

Baltimore.

Historical Club Election.—At the Johns Hopkins Hospital Historical Club Dr. Eugene F. Cordell was elected president and Dr. Thomas B. Fletcher, secretary.

Deaths for the Week.—There were 171 deaths last week in the city, an annual rate of 16 per 1,000. There were 4 deaths from typhoid fever, and 9 from diphtheria.

Physician Wins Suit.—A suit against Dr. Edward J. Bernstein for \$10,000 damages, for the alleged loss of the life of a child from meningitis following the enucleation of an eyeball, has been decided in favor of the defendant.

Personal.—Dr. Charles E. Simon has returned from Nova Scotia.—Dr. Charles W. McElfresh has been elected associate professor of clinical medicine in the University of Maryland, vice Dr. Morris C. Robins, resigned.—Among the visitors to Baltimore last week were the members of the Moseley Commission (referred to in these columns last week), sent from England to study American universities.

MASSACHUSETTS.

Milk for Sick Babies.—A total of \$4,530 was contributed in Boston this summer for the fund which supplies modified milk to the sick babies of the poor.

Hospital for Melrose.—A new private hospital in which any physician may care for his patients, is to be established in Melrose by two graduate nurses of the Melrose Hospital Training School.

Personal.—Dr. Walter S. Carr, who for 19 years has practiced in North Adams, has gone to Colorado on account of ill health.—Dr. Arthur K. Drake, assistant superintendent of the state Hospital, Tewkesbury, has been elected superintendent of the Lowell General Hospital.

Registration at Harvard Medical.—The registration of Harvard Medical School shows a total of 374 students, a decrease, accounted for by the graduation of a class admitted under the low standard. Harvard now requires an A.B., or its equivalent, for admission to the medical school.

Ether Anniversary.—The fifty-seventh anniversary of the first administration of ether for a serious surgical operation was celebrated by the trustees of the Massachusetts General Hospital by an open-air lunch and an inspection of the new out-patient department. Several thousand people were present.

Limit Authority of Staff.—The managing board of Milford Hospital has notified each member of the staff officially that "no operation of a dangerous character shall be performed without the consent of at least two members of the staff other than those on duty at the time of the performance of such operation."

No Diphtheria Epidemic.—There has been considerable newspaper excitement in Boston over the supposed existence of an epidemic of diphtheria among the school children. The City Board of Health has had cultures made by school inspectors in the districts mentioned and finds remarkable freedom from the presence of the germs in healthy throats. Several towns in the state, however, not far from Boston, are having many cases of diphtheria.

Bequests.—Dickenson Hospital, Northampton, received \$1,000 by the will of Elizabeth D. Clapp of that city.—By the will of Dr. George Haven, Boston, Harvard Medical School receives \$25,000, and a share in the residue, and the Boston Lying-in Hospital, with which Dr. Haven was long connected, receives \$20,000, and an equal share in the residue.—In the will of Miss Mary P. Ropes of Salem, filed for probate, October 23, Salem Public Hospital is given \$2,500.

MISSOURI.

Personal.—Dr. John G. Parrish, Sr., is critically ill at his home in St. Louis. Dr. Theodore Ilg, St. Louis, fainted in the street, October 12, and fractured his skull.

Charged with Illegal Practice.—J. A. Parker, J. C. Hoyt and F. A. Starback, Kansas City, were arrested October 12 on complaint made by the State Board of Health, charging them with practicing medicine without license. They gave bonds of \$500 each, and trial is set for November 27.

New Surgical Society.—On September 21 the St. Joseph Surgical Society was formed with the following officers: Dr. Jacob Geiger, president; Dr. O. Beverly Campbell, vice-president; Dr. L. A. Todd, secretary; Dr. Thompson E. Potter, treasurer, and Drs. Charles H. Wallace and James W. Heddens, censors.

PENNSYLVANIA.

Quarantine of Allegheny Threatened.—The State Board of Health has notified the authorities of Allegheny that, unless they at once take active measures to stamp out smallpox, the board will probably quarantine that city.

Smallpox and Typhoid.—For the week ended October 24, 9 new cases of smallpox were reported in contrast to 54 for the previous week. Of typhoid fever 80 new cases occurred as compared with 103 for the previous week.

Work for the Insane.—The inmates of the insane department of the Philadelphia Hospital have little to occupy their time,

except to help care for their apartments and to prepare and serve their food, so that they spend much of their time in idleness. Director Martin proposes to introduce horticulture, and to that end asks for the contribution of plants.

Experimental Inspection of Schools.—The committee on hygiene of the board of education has authorized the director of the department of health to assign a medical inspector to one of the public schools who shall inspect the pupils daily. This is to serve as an experiment as to the value of such work, and will go far in determining whether a system of inspection for all the schools will later be inaugurated.

Prosecutions for Adulterations.—Dairy and Food Commissioner Warren has ordered prosecutions against 365 liquor dealers in the state for adulteration. Of samples taken 85 per cent. are said to have contained salicylic acid. He has also ordered ten prosecutions in Philadelphia against violators of the lard and oleomargarin laws. Several manufacturers of compound lard have subscribed a large amount to defend the packers and dealers.

New Hospital for Consumptives.—The board of trustees of the Rush Hospital for the Treatment of Consumptives has approved plans for a new hospital building as an annex to the present hospital. The new building will accommodate 40 patients, doubling the capacity of the institution. One-fourth of the amount necessary for the addition, \$20,000, has been appropriated by the state, and it is necessary for the friends of the institution to raise the balance.

WISCONSIN.

The New Year.—Milwaukee Medical College opened October 1 with a lecture by Dr. William J. Cronyn on "Medical Jurisprudence."

Superior's Deaths for the Year.—The report of the secretary of the local board of health for the year ended October 1 shows that 46 deaths were due to pneumonia, 40 to scarlet fever, and 30 to consumption during the year. The total of deaths for the year was 453.

Smallpox Closes School.—The German school at Weyauwega has been closed because of smallpox among the pupils. As no physician has been employed, it spread considerably before it came to the attention of the local authorities. A strict quarantine has been instituted and no further spread of the disease is anticipated.

Personal.—Dr. William C. Bennett, for seven years registrar of vital statistics of Milwaukee, has resigned, and Dr. F. E. Darling has been chosen to succeed him.—Dr. Albert F. Heising, Menominee, has returned from Europe.—Dr. F. C. Kovats, senior interne at the Emergency Hospital, Milwaukee, has resigned, and Dr. George K. Koepfel has been promoted.

GENERAL.

Assistant Surgeons U. S. Navy Appointed.—Five new assistant surgeons have been appointed in the Navy. There are still eleven vacancies in the medical corps.

Personal.—Dr. T. Storie Dixon, a member of the medical board of New South Wales, Australia, was in Chicago last week, and will visit Europe before his return to Sydney.

Assistant Surgeons U. S. Army Appointed.—At the recent examination of candidates for commissions as assistant surgeons in the Army, held in Washington, D. C., only 5 out of over 20 candidates who reported for the examination qualified. There are now eighteen vacancies remaining in the medical department of the Army. Another examination will be held in Washington next May.

Yellow Fever Refugees.—An interesting feature of the yellow fever outbreak in Monterey, Mexico, is the migration of a hundred or more people to groves near that city, where they live in tents. They thus are away from the crowded centers of infection. They prefer not to go further because of business or family ties. Many others have gone to adjoining towns. Only a few cases of yellow fever have occurred. There are other diseases reported there, including malaria, which have been confused with yellow fever.

The Enno Sander Prize.—All persons eligible to active or associate membership in the Association of Military Surgeons of the United States may compete for the prizes (first prize, a gold medal, value \$100; second prize, a life membership in the association, value \$50) offered by that association for the best essays on "The Relation of the Medical Department to the Health of Armies." In fixing the precedence of the essays submitted, the board will take into consideration—primarily—

originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables. Three typewritten copies of the essay must be sent marked with a nom de plume, and with the author's name in a separate envelope, as is usual in prize competitions. All essays must be received by Sept. 10, 1904, by Secretary James Evelyn Pilcher, Carlisle, Pa.

FOREIGN.

For spitting in a street car a man in London was fined \$30. This is said to be the first prosecution there. The offense was accompanied with the use of foul language.

Sentence for Fatal Quack Practices.—The German charlatan, Runge, has been condemned to three months' imprisonment at Lauenburg on account of the death of a young woman whom he treated by extensive venesection and application of 22 leeches. She had a gastric ulcer and succumbed within a few days to debility from the loss of so much blood. Another charlatan, Scheibler, has been fined \$75 at Berlin for fraudulent practices and the use of the title, professor.

Compulsory Accident Insurance of German Students.—The German universities are introducing the plan of compelling the medical students to insure themselves against accidents. At Greifswald it is obligatory for all the students in the departments of medicine and physics, but at Heidelberg it is obligatory only for those in the institutes of anatomy, pathology, hygiene, etc., in which there is possible danger of accidents, and also for the students working on the cadaver. The students must bear the expense of the insurance themselves, without aid from the university or state.

Fined for Insulting the Medical Profession.—A teacher and a capitalist of Elberfeld, Germany, have been fined \$18 each for "insulting the medical profession." The first mentioned is president of the local association of "nature healers," and with the coöperation of the other advertised in the local papers a free course of lectures for the benefit of physicians on the diagnosis of eye affections. The physicians of the place regarded the advertisement as a deliberate insult and sued for damages. The court took the same view and fined the defendants as stated.

The Psychologic Aspect of the Humbert Frauds.—Dr. Fay comments in the *France Médicale* on the Humbert case as an example of what is possible to depravity plus hysteria. He says that as an illiterate country girl, Thérèse Humbert invented stories of concealed treasures while still a child, and as a young woman, a pronounced hysteric, she became convinced of the truth of what she was continually asserting in regard to the imaginary Crawford millions. This obsession persisted to the end, and still in prison where she is serving a five-year sentence. He adds: "Hysteria produces its saints and its sinners. Psychologists have always been interested in the record of the holy nun known as Sainte Thérèse who was affected with the gravest organic form of hysteria, hysteric paralysis with contractions. History now gives us in the life of the Humbert woman an amazing example of criminal human nature complicated by hysteria."

The Nuremberg Historical Medical Museum.—The last number of the *Deutsche Med. Wochenschrift* brings the report of the progress realized in this new institution which aims to preserve everything relating to the history of medicine in Germany. The report is from the hand of Dr. R. Landau, whose untimely death we recently chronicled. He describes with enthusiasm the many donations received during the year since its inception, and points out the great value to such a museum of original prescriptions from the hands of the dead masters, and urges their collection, also diplomas and other documents. One of the gems of the museum is a diploma given to an obstetrician in 1731, which is ornamented with designs introducing the surgical instruments used at that date. Another interesting historical feature is a collection of the first local pamphlets from the watering places. The success of this historical museum is now assured, if only as a memorial to Landau.

European Decorations for the Profession.—Two Spanish physicians were decorated by the King of Spain on the occasion of the International Medical Congress at Madrid. The order of the Cross of Alphonso XII was conferred on Dr. Larra y Cerezo and the Grand Cross on Dr. Cortezo, who is co-editor of the *Siglo Médico* and president of the International Medical Press Association. The *Siglo Médico* at once opened a subscription list to raise funds to present the insignia of the orders to the recipients, and now announces that sufficient contribu-

tions have been received for the purpose—about \$170 and \$213. These decorations are not always accompanied by the gift of the insignia; and in certain orders when they are presented it is with the understanding that they are to be returned to the sovereign presenting them on the death of the one thus honored. The Order of the Golden Fleece is one of this thrifty kind, and the badge thus acquires great historical value as it is passed from one holder to another. The Standard dictionary contains cuts of the most noted insignia, and our readers will remember that the order of the Dannebrog, founded in 1219, was conferred by the King of Denmark on Dr. Christian Fenger of Chicago, not long before his death. Several other members of the American Medical Association have also been thus distinguished by foreign potentates.

International Sanitary Conference.—Twenty-five powers are represented at this conference now in session at Paris. There are 69 delegates, 39 of whom are members of the medical profession. The invitation to the conference was issued by Italy, and the French ambassador to Italy, Mr. Barrère, presides over the meetings. France is represented besides by Brouardel, Proust, general inspector of the sanitary service in France, Roux of the Pasteur Institute, Calmette of Lille and three other physicians from the French colonies in Africa, with G. Louis, director of consulates. Great Britain is represented by de Bunsen of the British embassy, and two physicians, T. Thomson and F. G. Clemow, with Colonel Richardson of the Indian Medical Service and Mr. Alban. There are 4 official delegates from Germany, including Gaffky of Giessen and Nocht of Hamburg. The delegates from the United States include Surgeon Anderson, medical inspector of the European station, and Col. Gorgas, assistant surgeon-general, U. S. A., late of Havana, both members of the American Medical Association, with Dr. Giddings. The part played by the rats in the dissemination of the plague has been brought to light since the last international conference of the kind, and uniform measures to prevent infection from this source are under discussion. Another theme is the quarantine for the ships passing through the Suez canal. The wishes of Great Britain conflict with those of the other powers on this point.

A Warning to Wealthy Parents.—A very important lesson is drawn by the *Deutsche Med. Wochenschrift* from a recent sensational affair in Germany, urging the necessity for medical oversight of the children of wealthy parents. The two sons of a prominent Berlin banker were entrusted to a private tutor, who lived on a country estate or in the little town of Bayreuth with them while the parents were traveling or at home in Berlin. No one except the tutor was responsible for the lads, and their mental training seemed to be the only care of the parents. The tutor proved to be a typical case of extreme sadism, and during the months that the boys were under his charge maltreated them to such an extent that one has since died. If some local physician in the country town had been written to and requested to look after the children at brief intervals this terrible catastrophe might have been averted. Our exchange adds a warning to all parents, and especially to those of the upper ten thousand, to regard the health of their children as their most precious treasure, and not to leave the care for their physical welfare entirely in the hands of outside persons—no matter how "ideally" they may seem fitted for the task. In the case mentioned a number of extraordinary circumstances combined to keep the boys in their slavery and prevent its reaching the ears of the parents, who apparently regarded the boys' health and happiness as "neglectable quantities." The tutor has been sent to the penitentiary for eight years.

Decisions of the Prussian Medical Court of Honor.—In a recent decision the court stated that misdemeanors, etc., on the part of physicians, outside of their professional work, come within the jurisdiction of the court of honor, as such proceedings conflict with the honor of the profession. In another case a local court of honor had fined a physician for selling his practice to his successor. Appealing to the central court of honor the physician showed that the price received, \$750, was in payment for the vehicles, etc., valued at \$800, and that the practice had not been included in the bargain, and the sentence of the lower court was reversed. In another case a physician was fined for associating himself in business with a charlatan. He offered testimony to prove that the charlatan had contracted with him to refrain altogether from any connection with medical affairs, and, hence, he considered that the man had ceased to be a charlatan. The decision of the court was to the effect that any business association with a charlatan is *per se* an offense against professional ethics, but as the physician had severed at once his connection with the charlatan as

soon as he learned of the disapproval of the court, this was accepted as a mitigating circumstance and the lightest penalty imposed. Another physician had examined a deaf and dumb workman, but in making out the certificate later did not think of this defect and testified that he was sound. The local court of honor censured the physician but did not fine him, stating that a single act of negligence is not sufficient to justify the assumption that a physician is habitually negligent. The higher court of honor took up the case and proclaimed that neglect of proper carefulness, even in a single instance, is sufficient to show that the physician does not exercise his profession in a conscientious manner. The failure to specify the deafmutism of the subject when taking the notes for an official certificate, is sufficient grounds for the assumption of negligence, and a penalty was therefore imposed.

PARIS LETTER.

Radical Treatment of Eclampsia.

Dr. Maury, former interne of the Paris hospitals, has written a thesis recently on the treatment of eclampsia, in which he strongly advocates Bonnaire's treatment, consisting in removing the child as soon as possible. If labor comes on during eclampsia, it should be hastened, whatever may be the date of the pregnancy. When such is not the case, it should still be carried out when the attack of eclampsia is severe. In some cases the condition of the mother is such that the only means of saving the child is to perform the "accouchement forcé." After the beginning of the eighth month it is well to do this if eclampsia does not respond quickly to the treatment.

Microbes Necessary to Nutrition.

A German physician, Schottelius, has been carrying out some experiments on some chickens which are highly interesting as tending to show that some bacteria are necessary to life. Five new-born chickens were given sterilized food, and though they ate much more than other chickens, none was able to live more than eleven to twenty-nine days. The digestion seemed to take place normally, but there was no increase in size. Schottelius made another experiment, which consisted in giving some of these chickens a culture of *Bacillus coli gallinarum*. The chickens began to grow larger immediately and no anomaly was noticed.

Destruction of Rats by Carbonic Acid.

In the French Review of Hygiene a method of destroying rats on board ship has been recently described by Dr. Jacques de Marseilles. Carbonic acid was used, and for a space of 120 cubic meters 40 cubic meters were employed. The carbonic acid was brought to the hold of the vessel by means of a long pipe, which divided off into four smaller pipes passing into the merchandise. The hold was kept closed three hours, and then thoroughly ventilated by means of the same apparatus. Fifty-two rats which had been placed in the hold were found dead. One advantage of this operation is its absence of odor, and the fact that it can hurt no merchandise.

Radiography of Gallstones.

At a meeting of the Academy of Sciences held last month Drs. Maublanc and Inffroit described how they had obtained a radiograph of gallstones. This is, it seems, the first time that such a result has been obtained. A small tube, which was "osmo regulateur," and charged by a static machine with eight places, was placed at 75 centimeters from the radioplate, on which the patient was placed directly. A bandage of linen, 30 centimeters large, served to compress the abdomen. The tube was but slightly penetrating and the pose only lasted 10 minutes.

Novel Treatment of Gastro-enteritis.

At a meeting held by the Academy of Medicine October 13, Dr. H. de Rothschild, one of the members of the well-known family of that name, described the results of his treatment of infantile gastro-enteritis. It seems that six thousand infants under a year of age die on an average every year in Paris from this disease. Dr. de Rothschild has milk centrifuged so as to remove the butter, then acidified by using pure cultures of lactic acid; 30 to 60 cubic centimeters are then given to a child. After this treatment the temperature dropped in a short space of time, and the condition of the patients improved, the most noticeable fact being that they increased in weight. Out of 14 cases treated in this manner, a complete cure was obtained in 13 cases, and in one case only was there a relapse, which ultimately was followed by a cure.

The Relations of Cancer and Ulceration of the Stomach.

Duplant of Lyons, a pupil of Professor Tripier of Lyons, published in 1898 a work in which he declared that it was not

proven that cancer ever succeeded ulcer of the stomach, and went so far as to say that such an event never took place. Dr. Andistère has just published a thesis in which he proves that such a transformation may take place, and is not rare. This is most frequently seen in ulcers situated in the prepyloric region and begins by the borders of the ulcer. A diagnosis can be made out by the persistence of the morbid symptoms after prolonged treatment, especially the pain. The prognosis is much more grave than that of ordinary cancer, as complications of both diseases may supervene.

Marriages.

JOHN D. CANTWELL, M.D., Davenport, Iowa, at Ackley, Iowa, October 8.

EDWIN W. POINIER, M.D., to Miss Lela M. Peet, both of Chicago, October 27.

LEWELLYS F. BARKER, M.D., Chicago, to Miss Lilian Halsey, at Baltimore, October 29.

FREDERICK H. BAETJER, M.D., to Miss Mary Y. Carey, both of Baltimore, October 14.

RICHARD C. NORRIS, M.D., Philadelphia, to Miss Grace Thompson-Vogt, October 14.

W. W. COLEMAN, M.D., Lawndale, Ill., to Miss Bida Dunham, near Lincoln, Ill., October 14.

HARRY G. WATSON, M.D., to Miss Adelaide Marie Erichs, both of New York City, October 14.

JOSEPH MARSHALL FLINT, M.D., to Miss Anne Apperson, at Pleasanton, Cal., in September.

EDWARD HOMER GEE, M.D., to Miss Lavinia Logan Gant, both of Zanesville, Ohio, October 14.

LOUIS H. CISLER, M.D., Marietta, Ohio, to Miss Carol S. Nye, at Brookline, Mass., October 12.

WALLACE W. ROBINSON, M.D., Portland, Me., to Miss Addie E. Bowden of Chicago, October 28.

GLASGOW ARMSTRONG, M.D., to Miss Jessie May Bowling, both of Staunton, Va., October 14.

JULIAN F. CHISHOLM, M.D., Savannah, Ga., to Miss Nannie E. Levering, at Baltimore, October 15.

J. A. JOHNSON, M.D., Bottineau, N. Dak., to Miss Emma Babler of Humboldt, Wis., October 7.

HOMER SAMUEL WARREN, M.D., to Miss Charlotte A. Van Housen, both of Chicago, October 15.

HERMAN CARL MERKER, M.D., Chicago, to Miss Nina A. Williams of Rochester, N. Y., October 14.

EDWARD SANBORN SMITH, M.D., Macon, Mo., to Miss Emily Frey, at Washington, D. C., October 14.

VICTOR L. ZIMMERMAN, M.D., Brooklyn, N. Y., to Miss Margaret King of New York City, October 14.

CHARLES P. ALING, M.D., Marine Mills, Minn., to Miss Genevieve McCool, at Hillsboro, Ill., October 23.

HARRY CLEMM HYDE, M.D., Baltimore, to Miss Mary Catherine Duncan, at Norfolk, Va., October 14.

TRAVIS SCOTT, M.D., Pleasant Plains, Ill., to Miss Witty, at her home near Newmanville, Ill., October 14.

LEONIDAS A. KOONTZ, M.D., to Miss Rachel J. Corley, both of Sutton, W. Va., at Baltimore, October 11.

CHARLES H. SPENCER WILLIAMSON, M.D., to Mrs. Josephine Gillette Stillwell, both of Chicago, October 15.

JOSEPH FRANCIS WARD, M.D., Brooklyn, N. Y., to Miss Elizabeth R. Hawkins, at Baltimore, October 15.

Deaths.

Jean Fresne Chauveau, M.D. Geneva (N. Y.) Medical College, 1853, a member of the American Medical Association, New York State Medical Association, New York Academy of Medicine, New York County Medical Society, and New York Neurological Society, attending physician at the French Hospital for twenty years, and for fifty years a practitioner of New York City, died at his home, October 17, aged 72.

Maurice Fieschor Pilgrim, M.D. Howard University, Washington, D. C., 1884, once vice-president, and at the time of his death chairman of the executive council of the American

Electro-Therapeutic Association, died at his home in New York City, October 18, from pneumonia, after a brief illness, aged 45.

Sidney S. Willis, M.D. College of Physicians and Surgeons, New York, 1890, a member of the American Medical Association, and one of the staff of St. Elizabeth's Hospital, Appleton, Wis., died at that institution, October 14, from typhoid fever, after an illness of ten days, aged 35.

John L. Waldie, M.D. Long Island College Hospital, Brooklyn, N. Y., 1896, died at his home in Brooklyn, N. Y., October 18, from kidney disease, after an illness of two weeks, aged 31. He was a member of the staff of St. Mary's Hospital and of the Kings County Medical Society.

Albert Nott, M.D. University of Vermont, Burlington, 1869, some-time dean of the Boston College of Physicians and Surgeons, and of the Tufts College Medical School, died suddenly at his home in West Newton, Mass., October 10, from rheumatism of the heart, aged 53.

J. W. Carleton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1869, of Sisseton, S. Dak., a member of the American Medical Association, was found dead in Dry Wood Lake, October 14. He is supposed to have died from heart disease.

Robert Aberdein, M.D. Bellevue Hospital Medical College, New York City, 1867, of Syracuse, N. Y., who had retired from practice three years ago on account of ill health, died at the Hospital of the Good Shepherd, Syracuse, October 18, aged 57.

W. D. Hoyt, M.D. Jefferson Medical College, Philadelphia, 1854, a member of the American Medical Association, and one of the oldest practitioners of Rome, Ga., died at his country home near Farrill, Ala., October 16, from septicemia, aged 75.

James I. McConnell, M.D. Atlanta (Ga.) Medical College, 1884, a member of the International Association of Railway Surgeons, died at his home in Napoleonville, La., October 7, after an illness of one month.

John George Neal, M.D. Kentucky School of Medicine, Louisville, 1890, died in Santa Rosa, Cal., from septicemia, October 11, three days after an operation for abscess in the hip-joint, aged 38.

Hamill M. Alexander, M.D. University of Pennsylvania, Philadelphia, 1876, a member of the American Medical Association, died at his country home at Conewago, Pa., October 13, aged 52.

Albert F. Sawyer, M.D. Harvard University Medical School, Boston, 1852, one of the physicians in attendance on President Garfield, died at his home in San Diego, Cal., September 29, aged 84.

DeWitt Clinton Clark, M.D. New York University, 1878, was stricken with paralysis, September 24, near Orting, Wash., and died at the home of his daughter in Puyallup, September 30, aged 68.

David A. T. Bjorkman, M.D. College of Physicians and Surgeons, Chicago, 1898, of Evanston, Ill., died from tuberculosis at the Glockner Sanitarium, Colorado Springs, Colo., October 14.

Marsh H. Smith, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, of Manchester, Ill., died suddenly from heart disease while on a train at Dwight, Ill., October 16.

George C. Baker, M.D. University of Tennessee, Nashville, 1894, of Greenville, Ill., died suddenly from apoplexy, October 9, while making a professional call at Woburn, Ill., aged 42.

Ludwig S. Filbert, M.D. Pennsylvania Medical College, Philadelphia, 1847, died at his home in Philadelphia, October 19, from acute gastritis, after an illness of twelve days, aged 78.

John Ellis Wright, M.D. Marion-Sims College of Medicine, St. Louis, 1899, of Oak Grove, Ark., died from consumption, October 12, at the home of his father in Grandview, Ark.

Hugh P. Smith, M.D. Memphis (Tenn.) Medical College, 1858, died at his home in Goldthwaite, Texas, October 7, aged 73. He became blind and retired from practice in 1900.

Ossian W. Goss, M.D. Harvard University Medical School, Boston, 1882, a member of the American Medical Association, died at his home in Lakeport, N. H., October 8, aged 47.

George P. Kaemmerling, M.D. College of Physicians and Surgeons, Chicago, 1902, was found dead in bed in his office in Port Washington, Wis., from heart disease, October 3.

Richard Carnegie, M.D. Trinity College, Dublin, for ten years medical officer of an Allan liner, died recently in his berth on board the *Bavarian*, at the port of Montreal, aged 38.

Mark J. Morton, M.D. University of Tennessee, Nashville, 1885, died at his home in Fallcreek, Tenn., October 13, aged 40.

Daniel M. Pratt, M.D. Castleton (Vt.) Medical College, 1851, died at his home in Washington, D. C., October 12, from paralysis, after an illness of two weeks, aged 74.

William H. Graves, M.D. Southern Medical College, Atlanta, Ga., 1898, died at his home in Webster, Fla., October 2, from typhoid fever, after an illness of two weeks.

Frank C. Le Blond, M.D. Medical College of Ohio, Cincinnati, 1874, was found dead in his office at Celina, Ohio, from neuralgia of the heart, October 7, aged 53.

James Y. Bradfield, M.D. Medical College of Georgia, Augusta, 1858, of Daingerfield, Texas, died at Sulphur Springs, Texas, October 6, suddenly, from heart disease.

A. C. Bourbeau, M.D. Laval University, Quebec, 1902, honor man of his class, died at his home in Ste Agathe, Que., September 30, from typhoid fever, aged 25.

John Dudley Keegan, M.D. Cleveland Medical College, 1869, died at his home in Columbus, Ohio, October 9, from throat disease, after a short illness, aged 78.

William L. Wright, M.D. Memphis (Tenn.) Hospital Medical College, 1894, died at his home in Powder Springs, Ga., from an overdose of morphin, October 14.

Joseph N. McCrary, M.D. Louisville Medical College, 1893, of Whitesburg, Ky., died, October 16, from consumption, after a lingering illness, aged 33.

Jesse C. Rowley, M.D. Rush Medical College, Chicago, 1891, died suddenly from heart disease at his home in Prairie du Chien, Wis., October 21.

B. C. Seaton, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Bolivar, Pa., October 9, from paralysis, aged 55.

William Willigman, M.D., of Mineral City, Ohio, died at his home, October 10, after a short illness, aged 58.

Deaths Abroad.

A. Fochier, M.D., professor of obstetrics and an eminent surgeon of Lyons, France, died in October, aged 66, succumbing in the halls of the university to a fulminating attack of angina pectoris. He was president of the local surgical society and had long been a member of the city council. Of all his numerous contributions to science the best known, perhaps, is his method of inducing aseptic abscesses with turpentine as a revulsive measure, the so-called "fixation abscesses."

Sophie Frances Hickman, M.D., a member of the staff of the Royal Free Hospital, Gray's Inn Road, London, disappeared August 15, and, despite all efforts, no trace of her was found until October 18, when a headless body, identified as hers by trinkets, was found in a wood at Richmond. She was about 30 years of age.

Miscellany.

Success of Sodium Bicarbonate for Dressing Wounds.—Levassort applies the bicarbonate directly to the wound, sifting it freely over and packing the cavity with aseptic gauze, sometimes mixing it with the gauze. He leaves this dressing for fifteen to twenty days, merely drawing up a small piece of the gauze and cutting it off every two or three days. When the last of the gauze is removed the depths of the wound are found filled with red, almost erectile, granulations, and healing is soon complete. He does not drain except in abdominal surgery. The bicarbonate does not injure the tissues, but aids in osmosis and stimulates and provides a nourishing fluid for the young cells that develop. Their proliferation is so intense that they crowd out all microbial elements and grow into and transform fibrous cicatricial or degenerated tissues, so that it is not necessary to remove the latter to the extent generally believed. In his communication to the *Jour. de Méd. de Paris* he illustrates a typical case out of his five years' experience with this method, and describes a number of others.

A Profession, Not a Trade.—The professional man, like others, must live, and must earn a wage. But he has only one quality of service to sell—his best. No matter whether there be any return for that service or not, the service is his best. The true ideal of a profession is that want will be accepted rather than a fee for the performance of some act that is dishonorable, or *unprofessional*. The army takes high place in the list

of professions. Ruskin, the great sage, reaches the true reason when he says of the soldier: "He holds his life at the service of the state. Our estimate of him is on this ultimate fact—of which we are well assured—that put him in a fortress breach, with all the pleasure of the world behind him and only death and his duty in front of him, he will keep his face to the front." Here, then, we have the real essence that must ever distinguish the professions from the trades—service first, wage second.—*Canada Lancet*.

Hot Saline Solution in Treatment of Scrofulous Glands.—Unterberger has adopted the *douche pluviale saline* of the Biarritz physicians in his treatment of scrofulous glands in the neck, and states that it accomplishes surprisingly favorable results. He applies a stream of a concentrated saline solution, as hot as can be borne, to the gland for one to three minutes and follows this with hot compresses wet with saline solution, a tablespoonful of salt to a glass of water. At Biarritz the natural thermal saline waters are used at a temperature of 104 F. with a pressure representing 7 meters. Afterward the patient is given a warm saline bath and dried with hot towels, and is ordered to lie down for nearly an hour. The osmotic tension throughout the body is increased by the salt and the general metabolism accelerated while the jet on the glands stimulates retrogressive metamorphosis. He states, in his communication to the *St. Petersburg Med. Week*, xvii, 32, that his success with scrofulous glands has led him to try this method of treatment also for subcutaneous ulcers, trichitis and bone and joint affections. The results have been highly satisfactory.

Santonin in Tabes.—In 1901 Negro announced that in 5 out of 11 cases of tabes the fulminating pains were arrested by administration of santonin, while two others were much improved and only one proved refractory. Combemale reports in *Echo Méd.*, vi, 26, his experience with it in 16 cases of various nervous affections. In 7 cases not the slightest effect was appreciable, whether the patients took larger or smaller doses, in shorter or longer courses. These were all cases of neurasthenia or ordinary neuralgia. On the other hand, in the 9 cases of tabes the fulminating pains were unmistakably arrested in 5 by the medication. Negro's dose was 15 cg of santonin in three doses of 5 cg each at an hour's interval, given during the attack. Combemale gave smaller amounts longer continued, but has become convinced that Negro's method is preferable. He found that gastric crises followed the subsidence of the fulminating pains in one case in which the santonin had been given continuously for a maximum period. He remarks that xanthopsia is the first sign of incipient intoxication and requires suspension of the drug, but at this early stage of intoxication there is no danger of serious consequences from it. He is inclined to try a preventive course of 15 cg. in future when fulminating pains are imminent.

After Reorganization, What?—If the reorganization of the medical profession gave no further results than increased harmony and unity in the general profession of medicine it would be well worth all its costs, but as a matter of fact this expected result is one of the very least of probable good benefits. One of the first things to be looked after by the officers, particularly the president and the secretary, of the various new county societies, is the preparation of interesting scientific programs. One of the greatest objects that the committee on reorganization had in mind was the promulgation of scientific spirit in the various county societies. It is expected that in the local society the very best work will be done. The younger men of the profession should do their full share of original research and in correctly recording their observations of cases. The older men in the profession are fitted to draw conclusions from these observations, together with their own from earlier years. The joint results from such work will accomplish a great deal in preventing much of the radicalism that now does our profession so much harm. The university extension system could be very easily applied to the work of a society. Men who are recognized leaders in their chosen fields would gladly give of their time to this work. Considerable time might well be spent on the

subject, "Business Methods." Surely no profession needs to give greater consideration to this subject than does the medical profession.—*Iowa Medical Journal*.

The Non-Members of Medical Societies.—Why is it that a large majority of all practitioners are not members of a medical society? In part this is due to apathy of the officers and failure to present an attractive program, but more often the fault is in the men. Perhaps given over wholly to commercialism, a doctor feels it a waste of time to join a society, and so it is if he is in the profession only for the money he can get out of patients, without regard to the sacred obligation to put himself in the best possible position to do the best that is known for them. More frequently, I fear, the "dollar doctor" is a regular frequenter of the society, knowing full well how suicidal in the long run is isolation from the general body of the profession. The man who knows it all and gets nothing from the society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society to hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn and Ewald? He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation.—*Dr. Osler before the New Haven Medical Association*.

Book Notices.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. For Students and Practitioners. By Simon Baruch, M.D., Professor of the New York Post Graduate Medical School. 2nd Edition, Revised and Enlarged. With 100 Illustrations. Cloth. Pp 496. Price, \$3.00 net. New York, 1903.

The appearance of this second edition so soon after the previous one indicates its usefulness and the timeliness of the work. It is the only satisfactory treatise on the subject in our language. The author has cut down the material which he deemed necessary in his first edition to support his beliefs in the general use of hydrotherapeutics and has added a chapter on insanity based on the recorded observations of practical alienists. We believe the present edition will be received with the same favor as was the first, and perhaps even with more, since the first volume has educated the medical public to some extent in the use of water. The book should be read by every general practitioner. While hydrotherapy is overdone in some respects, as in the Brand treatment of typhoid fever in some cases, there are many other ways—beside the full bath—in which the antithermic and tonic effects of water can be obtained; not a few valuable uses of water are too little used. This work of Dr. Baruch will continue to be the standard text book on its subject in this country.

NERVOUS AND MENTAL DISEASES. By J. H. Church, M.D., Professor of Nervous and Mental Diseases, and of Neurological Department, New York Post Graduate Medical School, and Fredrick Peterson, M.D., Professor of Nervous and Mental Diseases, Lunatic Asylum, New York. 2nd Edition, Revised and Enlarged. With 338 Illustrations. Cloth. Pp 500. Price, \$5.00 net. Philadelphia, New York, London W B Saunders & Co 1903.

This edition of this well known work contains the later additions to our knowledge on the subject. Church has included in the text the data in regard to nerve degeneration furnished by Ballance and others, and has also included herpes zoster as a nervous disease. The subject of intermittent claudication is also considered as well as the myoclonic type of epilepsy and special attention is given to certain points in diagnosis, etc. The department of the book on insanity by Peterson has been enlarged by a review of the problems of psychiatry as shown in the recent work of German investigators; in other words, a review of the more recent work in this line by Ziehen, Wernicke, and Kraepelin, which has been contributed by Dr. Adolph Meyer, director of the New York Pathologic Institute. This forms a valuable addition independent of the rest of the book.

cuts have been added to the work, and it will undoubtedly maintain its place as one of the leading, if not the leading, text-book on its subject in this country.

MODERN BULLET WOUNDS AND MODERN TREATMENT, with Special Regard to Long Bones and Joints, Field Appliances and First Aid. Part of the Alexander Essay for 1903. By Major F. Smith, D.S.O., Royal Army Medical Corps. Cloth. Pp. 99. Price, \$1.20 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a part of the Alexander prize essay for 1903. It is but a small book, but will be of practical value to those who are interested in this branch of modern surgery.

SERUM THERAPY, BACTERIAL THERAPEUTICS AND VACCINES. By R. T. Hewlett, M.D., M.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Cloth. Pp. 262. Price, \$1.75. Philadelphia: P. Blakiston's Son & Co. 1903.

The author has attempted to give a concise account of the preparation of antitoxins and the treatment of diseases therewith and antisera and various other substances, vaccines, etc., obtained from bacterial cultures and the like. With this he gives brief directions as to the making and testing of various preparations, though, as he says, the data are not complete, and only practical experience can make one thoroughly skillful and competent. He has briefly noticed other somewhat allied substances, such as typhoid extract of jez, cancerin, etc. The book will be a convenient one of reference to the physician who wishes to be posted on these substances.

DISEASES OF THE SKIN. An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London. With 2 Colored Plates and 58 Plain Figures. New Edition. Flexible Cloth. Pp. 642. Price, \$2.50. Chicago: W. T. Keener & Co. 1903.

This third edition of Morris' handbook brought out for American readers is one of the more convenient as well as complete of the smaller handbooks on dermatology and deserves to be widely read. It is especially convenient in its compactness, and, while no work on this subject can be absolutely complete within its compass, it is as nearly so as can probably be demanded. Dr. Morris says that care has been taken not to alter the character of the volume in expanding it from an elementary manual to a treatise, and it will be all the more acceptable to many general practitioners for just this reason.

ANNUAL REPORTS OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Years 1900 and 1901. Paper. Pp. 736 and 652 respectively. Washington: Government Printing Office.

These are interesting documents. Beside the ordinary matter which such reports contain there are a number of instructive pathologic and clinical reports. A portion of real historical interest is the correspondence and history of the action in regard to bubonic plague at San Francisco in 1901, an instructive episode in public sanitation. It is to be hoped that no other sanitary officer will be subject to the persecution and abuse that Dr. Kinyoun received in San Francisco. Taken altogether the reports of these two years are valuable contributions to sanitary literature.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.
Oklahoma Medical Examining Board, Enid, Nov. 10.
Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.
Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.
State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.
Nebraska State Board of Health, Lincoln, Nov. 11.
Board of Registration of Medicine of Maine, Augusta, Nov. 11.
Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.
New Mexico Board of Health, Santa Fe, Dec. 7.
Examining Board of Medical Society of Delaware, Dover, Dec. 8.
Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.
Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Illinois July Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination at Chicago, July 22, at which, out of 153 applicants, 149 passed

and 4 failed. We have prepared from this a summary by colleges, as follows:

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Northwestern Univ., Chicago...	26	0	91	81	87.07	.....
Rush Medical College, Chicago...	50	0	93	79	86.68	.....
College of P. and Surgs, Chicago	7	0	91	76	84.42	.....
Harvey Medical College, Chicago	14	0	89	78	83.57	.....
Jenner Medical College, Chicago.	11	2	87	65	81.45	67
Illinois Medical College, Chicago	5	0	83	76	81.20	.....
Amer. Med. Miss. Coll., Chicago.	2	0	83	81	82.00	.....
Hahnemann Med. Coll., Chicago.	2	1	85	67	83.50	67
Chicago Homeo. Medical College.	2	0	87	76	81.50	.....
University of Michigan.....	3	0	90	86	87.66	.....
University of Iowa.....	3	0	85	81	83.66	.....
Eclectic Med. Inst., Cincinnati..	2	0	84	78	81.00	.....
Hospital Med. College, Louisville.	2	0	80	82	85.00	.....
Kentucky School of Medicine...	2	0	84	84	84.00	.....
Bennett Medical College, Chicago	1	1	80	72	76.00	.....
Amer. Coll. of M. and S., Chicago	1	0	75	75	75.00	.....
Coll. of Med. and Surg., Chicago	1	0	82	82	82.00	.....
Baltimore Medical College.....	1	0	87	87	87.00	.....
Woman's Med. College, Chicago.	1	0	76	76	76.00	.....
Milwaukee Medical College.....	1	0	82	82	82.00	.....
M. Sims-Beaumont Med. College.	1	0	87	87	87.00	.....
Jefferson Med. Coll., Philadelphia	1	0	84	84	84.00	.....
Kentucky University.....	1	0	76	76	76.00	.....
Amer. Medical College, St. Louis	1	0	83	83	83.00	.....
Johns Hopkins University.....	1	0	89	89	89.00	.....
Keokuk Medical College.....	1	0	80	80	80.00	.....
Cornell University.....	1	0	88	88	88.00	.....
Medical College of Ohio.....	1	0	81	81	81.00	.....
University of Palermo, Italy.....	1	0	86	86	86.00	.....
University of Naples, Italy.....	1	0	84	84	84.00	.....
University of Genoa, Italy.....	1	0	84	84	84.00	.....
Cleveland Homeo. Med. College...	1	0	83	83	83.00	.....

The following are the grades in detail attained by the candidates of schools having 3 or more representatives:

Northwestern University: A grade of 91 was attained by 2; 90 by 6; 88 and 87 each by 3; 86 by 4; 85 and 84 each by 2; 83, 82 and 81 each by 1.
Rush Medical College: 93 and 92 each by 1; 91 by 3; 90 and 89 each by 5; 88 by 4; 87 by 11; 86, 83 and 82 each by 3; 85 by 6; 84 and 81 each by 2; 79 by 1.
College of Physicians and Surgeons: 91, 90, 89, 87, 80, 78, 76 each by 1.
Harvey Medical College: 89, 88, 86, 85, 84 and 78 each by 1; 87, 83, 81 and 79 each by 2.
Jenner Medical College: 87, 84, 79, 78, 69 and 65 each by 1; 81 and 80 each by 2; 82 by 3.
Illinois Medical College: 83 by 3; 81 and 76 each by 1.
Hahnemann Medical College: 85, 82, 67.
University of Michigan: 90, 87, 86.
University of Iowa: 85, 83, 81.

Rhode Island Report.—Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health, reports the examination held at Providence, R. I., Oct. 1 and 2, 1903, as follows: Number of subjects, 7; questions, 70; percentage required, 75; examined, 16; passed, 15; failed, 1. The examination was a written one.

Candi- Schl. of date. Pract.	College.	PASSED.		Year Grad.	Per Cent.
245 R.	Baltimore Medical College.....			1903	82.6
246 R.	Baltimore Medical College.....			1903	79.8
252 R.	College of Phys. and Surgs., Baltimore			1901	82.0
253 R.	College of Phys. and Surgs., Baltimore			1903	79.3
257 R.	College of Phys. and Surgs., New York			1902	81.9
247 R.	Georgetown University.....			1903	82.1
248 R.	Harvard University.....			1903	78.4
256 R.	Harvard University.....			1903	89.1
255 R.	Illinois Medical College.....			1902	75.0
258 R.	McGill University.....			1902	87.9
250 R.	University of Lisbon.....			1900	76.0
249 R.	University of Michigan.....			1901	84.8
259 II.	Women's Medical College and Hos- pital, New York Infirmary.....			1898	82.3
254 R.	Medico-Chirurgical Coll., Pennsylvania			1898	76.8
251 R.	University of Naples.....			1899	77.1
260 R.	University of Vermont.....			1862	*75.0

FAILED.
244 R. University of Naples..... 1899 73.9
* Special oral examination October 15.

The questions asked were as follows:

ANATOMY AND PHYSIOLOGY.

1. Give a brief description of the temporal bone, and state with what bones it articulates. 2. Describe the tarso-metatarsal articulations. 3. Describe the sacrum and give comparative osteology of same. 4. Describe the nerve mechanism of mastication. 5. Give the physical and chemical characters of protoplasm. 6. Describe the (a) fixed, and (b) amoeboid cells of connective tissues. 7. Describe the mode of secretion and discharge of bile and give the average quantity daily secreted by man. 8. Give the chemical composition of human milk. 9. Give the quantity of water in 1000 parts of (a) blood, (b) gastric juice, (c) teeth, (d) milk. 10. Name the muscles of the internal femoral region.

CHEMISTRY AND MATERIA MEDICA.

1. What chemical may be used to neutralize the action of hydrochloric acid when taken as a poison? 2. What pathologic changes are found in connection with a highly alkaline urine? 3. Name some of the chemical changes which take place as the result of action of bacteria. 4. What gas is present in a case of death by suffocation? Give its formula and what chemical is its antidote. Give its symbol. 5. What effect does formaldehyd have on the usual action of dirty milk, and what on the human system, or should that chemical be used by the farmer? 6. In what way does aqua pura or oxygen serve as a therapeutic agent? 7. Give uses of calomel at the present day and mention two forms or combinations in which it is used. 8. Give the doses of two of the coal tar products used as a febricide and care to be used in their administration. 9. Give uses, doses and form in which quinin should be administered. 10. Describe the therapeutic value of alcohol in the human system.

PATHOLOGY.

1. Describe the details of incisions at autopsy for the purpose of removing and examining the kidneys. 2. Describe the appearance of the inner walls of the bladder in chronic cystitis. 3. What are the most common pathologic changes found in the aged? 4. What is the causative factor in septicemia following the penetration of a rusty nail in the foot? 5. Describe the appearance of a heart affected with fatty-degeneration. 6. Describe the appearance of tuberculosis of the intestines. 7. What pathologic change is a cause of alopecia? 8. What are the pathologic and mechanical changes which produce spinal curvature? 9. What internal or external lesions may be found present as causative of a hemorrhage in the abdominal cavity? 10. In case of death from retention of a foreign body in the lungs what pathologic changes would be found?

SURGERY.

1. Name the several forms of stricture of the esophagus. Give treatment of cicatricial stricture. 2. Give symptoms, prognosis and treatment of acute lymphangitis. 3. Give varieties and complications of hare-lip. Describe Golding-Bird's operation for same. 4. Give diagnosis and treatment of basal fractures of the skull. 5. Give treatment of gunshot wounds of the face. 6. How would you make a diagnosis of paralysis of the muscles below the seat of a fracture? Give prognosis and treatment of same. 7. Give signs and symptoms of fracture of the femur, with treatment of same. 8. Describe operation for ligation of the posterior tibial artery in its middle third. 9. Give symptoms of moist gangrene. 10. How would you treat a case of dermatitis venenata?

THEORY AND PRACTICE.

1. Describe a case of acute laryngitis; cause; treatment. 2. Differential diagnosis between cerebral hemorrhage and embolism. 3. Describe a case of chronic interstitial nephritis. 4. Lobular pneumonia. 5. Delirium tremens; give treatment. 6. Scarlet fever; give treatment. 7. Diagnosis and treatment of endocarditis. 8. Of gastroenteritis. 9. Of appendicitis. 10. Of hypertrophic cirrhosis of liver.

OBSTETRICS AND GYNECOLOGY.

1. Give period of a normal term of gestation and causes which may shorten that period. 2. Name three of the most common causes of premature birth. 3. What procedures should be employed to resuscitate an infant apparently dead? 4. How diagnose the presence of a ruptured uterus and what treatment is called for? 5. When may anesthetics be used to advantage during labor? 6. Diagnose a case of prolapsus uteri and give cause for and treatment of same. 7. Describe differential diagnosis between ovarian cyst and fibroid of uterus. Give causes for dysmenorrhea. 8. Give treatment for gonorrheal vaginitis. 10. What pathologic conditions may produce a cystitis?

HYGIENE AND MEDICAL JURISPRUDENCE.

1. What judgment should be used in the use of baths in health? 2. How may we prevent the spread of communicable diseases? 3. Suggest a desirable method of ventilating a school room. 4. By what means and through what channels is the plague disseminated? 5. Why does suburban residence and occupations produce longer life, and why is the mortality in typhoid fever greater in the country? 6. Name three of the most common forms of insanity. 7. How may we compare a partly damaged bullet found in the tissues with others found in a revolver? 8. A physician is on trial for the death of a friend. The evidence is only circumstantial, although motive is in evidence. What especial examinations should be made at autopsy of deceased? 9. What stains of the clothing may appear like blood stains, and how may they be distinguished? Give one example. 10. A man dies a short time after being struck on the head with a bottle. What evidence would you require to satisfy a jury that that blow was the cause of death?

Medical Organization.

California.

PASADENA MEDICAL SOCIETY.—The members of this society have decided to affiliate with the Los Angeles County Medical Society in conformity with the standard plan.

MENDOCINO COUNTY MEDICAL SOCIETY.—This society was organized at Ukiah, October 8, with a charter membership of 12. Drs. Curtis G. Kenyon, Andrew W. Morton, and Philip M. Jones, all of San Francisco, a committee from the trustees of the state medical society, were present and aided in the work of organization. Dr. Edward W. King, Ukiah, was elected president; Dr. William N. Moore, Ukiah, vice-president, and Dr. Charles A. Poage, Hopland, secretary-treasurer.

SHASTA COUNTY MEDICAL ASSOCIATION.—On October 11 this society perfected its organization on the standard plan and

elected the following officers: Dr. Olin J. Lawry, Redding, president; Dr. John M. Read, Redding, vice-president; Dr. R. F. Wallace, Redding, secretary; Dr. C. W. Harper, Redding, treasurer, and Drs. Adelbert B. Gilliland, Cottonwood, C. W. Bryant, Redding, and John M. Read, Redding, trustees. The membership of the society will include physicians of Trinity County.

Indiana.

MORGAN COUNTY MEDICAL SOCIETY.—Councilor Dr. Myron A. Boor of the Fifth District organized a county branch of the state medical society, on the standard plan, at Martinsville, recently.

PUTNAM COUNTY MEDICAL SOCIETY.—The physicians of the county met at the office of Dr. Clinton T. Zaring, Greencastle, October 13, and with the aid of Dr. Myron A. Boor, Terre Haute, councilor for the Fifth District, reorganized the county society in conformity with the standard plan.

SHELBY COUNTY MEDICAL SOCIETY.—Physicians from various parts of the county met at Shelbyville, October 12, and reorganized the county society, adopting the standard constitution and by-laws, and electing the following officers: President, Dr. Charles C. Cook, Gwynneville; vice-president, Dr. Bayard G. Keeney, Shelbyville; secretary, Dr. Franklin E. Ray, Shelbyville; treasurer, Dr. Frank Campbell, Shelbyville, and censors, Drs. Henry M. Connelly, Flat Rock, Henry E. Phares, Shelbyville, and I. W. Inlow, Blue Ridge.

Iowa.

MAHASKA COUNTY MEDICAL SOCIETY.—At the regular meeting of the society at Oskaloosa, October 9, Dr. David C. Brockman, Ottumwa, councilor for the Sixth District, was present and aided in the reorganization on the standard plan. The following officers will hold over until the annual meeting in January next: Dr. Joseph T. Coveny, president; Dr. Joseph C. Barringer, vice-president; Dr. Herman C. Homer, secretary, and Dr. Samuel W. Clark, treasurer, all of Oskaloosa.

Louisiana.

OUACHITA PARISH MEDICAL SOCIETY.—With the aid of Dr. John M. Barrier, Delhi, president of the state society, the physicians of the county organized a society at Monroe, October 17, on the standard plan. Dr. W. B. Miller, Fouché, was elected president; Dr. W. E. Pugh, vice-president, and Dr. Robert W. O'Donnell, secretary and treasurer.

ASCENSION PARISH MEDICAL SOCIETY.—With the assistance of Dr. John M. Barrier, Delhi, this society was organized at Donaldsonville, October 8, and the standard constitution and by-laws adopted. Dr. William M. McGailliard was elected president; Dr. Tuite H. Hanson, vice-president, and Dr. Paul T. Thibodaux, secretary-treasurer, all of Donaldsonville.

TANGIPAHOA PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, organized this society on the standard plan at Amite City, October 19, with an initial membership of 18. Dr. John H. Ellis, Kentwood, was elected president; Dr. Charles S. Stewart, Amite City, vice-president, and Dr. J. S. LeNoir, Amite City, secretary and treasurer.

North Carolina.

ROWAN COUNTY MEDICAL SOCIETY.—This society met at Salisbury, October 12. Dr. Thomas E. Anderson, Statesville, councilor for the Eighth District, was present and offered for consideration the standard constitution, which was adopted. Drs. J. M. Flippin, Henry T. Trantham and John Whitehead, all of Salisbury, were elected censors.

Oklahoma.

NORTH OKLAHOMA MEDICAL ASSOCIATION.—This association was organized at Blackwell, October 13. Dr. Mark M. Lively, Blackwell, was elected president; Dr. Edward Hooper, Braman, vice-president; Dr. Henry F. Alexander, Blackwell, secretary, and Dr. Allen Lowery, Blackwell, treasurer.

Philippine Islands.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.—In order to comply with the standard requirements, a number of physicians, both American and native, met at Manila, September 15, and organized this association, adopting the standard constitution and by-laws, and electing the following officers: Dr. John Donelon, president; Drs. Trinidad H. Pardo de Tavera and Jose Albert y Mayoralgo, vice-presidents; Dr. William E. Musgrave, secretary-treasurer, and Drs. P. C. Freer, John R. McDill, Richard P. Strong, John Mage and Herbert W. Yemans, all of Manila. At the meeting a charter was granted to the Manila Medical Society.

Wisconsin.

MARATHON COUNTY MEDICAL SOCIETY.—Physicians of Marathon County met at Wausau, October 10, and organized a county society on the standard plan.

LANGLADE COUNTY MEDICAL SOCIETY.—The physicians of Langlade County met at Antigo, October 9, and organized a county society, with the aid of Dr. John M. Dodd, Ashland, counselor for the Tenth District. The following officers were elected: President, Dr. Ignatius D. Steffen, Antigo; vice-president, Dr. Michael J. Donohue, Antigo; secretary and treasurer, Dr. Frank I. Drake, Antigo; censors, Drs. Michael J. Donohue, Antigo, Flatley, and Fred V. Watson, Antigo, and delegate to the state medical society, Dr. Ignatius D. Steffen, Antigo.

GREEN COUNTY MEDICAL SOCIETY.—Fourteen physicians of the county met at Monroe, October 16, and elected Dr. George W. Roberts, Albany, temporary chairman. After discussion of the plan of organization proposed by the national, and endorsed by the state association, the organization was perfected by the adoption of the standard constitution and by-laws, and the election of the following officers: Dr. Samuel Moyer, Monroe, president; Drs. Thomas W. Nuzum, Brodhead, and Henry B. Gifford, Juda, vice-presidents; Dr. William B. Monroe, Monroe, secretary; Dr. John G. Randall, Monroe, treasurer; Dr. Nathan A. Loofbourow, Monroe, delegate to the state society; Dr. Eli W. Fairman, alternate, and Drs. George W. Roberts, Albany, William B. Gnagi, Monroe, and Elias J. Helgesen, New Glarus, censors.

Society Proceedings.

COMING MEETINGS.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.
Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(Concluded from page 1040.)

Differential Diagnosis Between Friedreich's Disease and Insular Sclerosis.

DR. F. SAVARY PEARCE, Philadelphia, read a paper by this title. Insular sclerosis, as a rule, begins between the ages of 20 and 30. The gait may vary, being spastic, cerebellospastic or cerebellar. In the latter case would occur the confusion. The occurrence, however, of rigidity with nystagmus, staccato speech and intention tremor would aid in diagnosis. Apoplectic attacks, bulbar symptoms and the liability for the disease to completely recede, it is said, would all seem to make diagnosis clear in the majority of cases.

Inflammation of the Middle Ear in Diseases of Children.

DR. THEODORE J. ELTERICH, Allegheny, said that statistics regarding the occurrence of unrecognized middle ear inflammation are so startling that it becomes a duty to examine the ears of young babies suffering from diseases apparently trivial. Of 100 cases examined by Ponfick 35 per cent. of the cases of acute middle ear inflammation occurred in infants dying of acute gastro-enteritis. In all these cases there had been no pain or external ear symptoms. The diagnosis of middle ear inflammation in young infants the writer considers well-nigh impossible in some instances. As soon as aural complication is detected gentle inflation should be made by the Politzer bag. The application externally of dry heat and the instillation of atropin dissolved in glycerin and water are recommended; about 1 grain of atropin to 1 dram each of glycerin and water. In addition 1 or 2 grains of phenacetin or an opiate should be given if required. For the congestion of the tympanic membrane he recommends bromid of sodium in small and repeated doses. These measures failing, paracentesis with the knife under strict antiseptic precautions should be done.

The Result of One Year's Medical Treatment of Gastropnoxis.

DRS. J. DUTTON STEELE and ALBERT P. FRANCINE, Philadelphia, described observations on 30 cases and concluded that:

1. In one-fifth of the cases the symptoms were due to downward displacement of the stomach.
2. Long continued mechanical support does not permanently restore the stomach to its normal position.
3. In cases in which the gastric symptoms are caused by uncomplicated downward displacement of the stomach the results of medical treatment have been very gratifying.

DISCUSSION.

DR. THEODORE DILLER, Pittsburg, had observed in two cases of neurasthenic women great benefit from the use of abdominal supports.

DR. R. H. GIBBONS believes that cases which have gone beyond a very slight dilatation should be treated surgically, preferably by Beyer's method, which he considers the best operation invented in modern times.

DR. S. SOLIS-COHEN took exception to the use of the term neurasthenia as a result of gastropnoxis or displaced kidney. While there might be a collection of symptoms resembling in some degree neurasthenia, the condition was not neurasthenia, which was a distinct disease or nerve exhaustion.

DR. DILLER said that he regarded his two patients as having a vitality decidedly below par and that he considered the condition of the viscera dependent on the neurasthenia. Neurasthenia he considers a matter, not of the neurons alone, but of the whole organism. In agreement with this he had understood Dr. Steele to say that in four-fifths of the cases he regarded the falling of the viscera a symptom of neurasthenia.

DR. ERNEST LAPLACE agreed with Dr. Diller. Supportive treatment alone, he believes, will not put the patient into the condition in which he will absorb the proper nutrition for his tissues, and only the surgeon can remove the cause of depression. Afterward medical treatment can make them perfectly healthy.

DR. J. D. STEELE agreed with Dr. Diller's statement of the case, but he would consider gastropnoxis a complication rather than a symptom in neurasthenia. It is considered that gastropnoxis is probably a link in the vicious circle.

Decapsulation of the Kidney for Chronic Bright's Disease.

DR. JAMES TYSON gave a historical summary and reported a case in detail. He regards the operation as at least life prolonging, as curative in some and as applicable to cases other than those of nephritis in its various forms. Dr. Tyson assumes that the operation should not be done until medical measures have been thoroughly applied; yet it should not be deferred until the patient is moribund. He considers parenchymatous nephritis more favorable for operation than interstitial. Further application of the operation is suggested in cases of obstinate so-called idiopathic hematuria.

DISCUSSION.

DR. S. SOLIS-COHEN spoke of a case of hematuria in which there was floating kidney, much enlarged, accompanied with albuminuria, hyaline and granular casts, and which was operated on by Dr. J. Chalmers DaCosta. It being considered unwise to decapsulate the kidney, the capsule was incised in various directions. Improvement was immediately manifest and the woman has gained forty pounds in weight. There is still occasional hematuria, but stone has not been proven to be present.

DR. RICHARD HENRY GIBBONS does not feel that the benefits of the operation come from the relief of tension, for there is but little tension in nearly all cases. He referred to a case of hematuria in which the kidney was opened but no stone found, and which, nevertheless, recovered.

Modern Treatment of Fractures with Special Reference to the Lower End of the Humerus and the Bones of the Leg.

DR. IRMA S. McCONNELL, New Brighton, read this paper at the Wednesday afternoon session and suggested the advisability of more thorough instruction in medical schools, and gave in detail the technic to be pursued.

DR. EDWARD MARTIN, Philadelphia, read a paper on "Surgical Treatment of Recent Fracture of the Patella," in which he stated that all fractures of the patella, in which the fragments are separated more than half an inch, or which are

attended by marked immediate joint tension should be treated by the open method

Retrodisplacements of the Uterus

Dr J M BALDY, Philadelphia, in this paper expressed the belief that very few cases of this condition occur as a primary condition. He condemned the free use of pessaries and thought that the intra abdominal was the preferable operation for shortening the round ligament

DISCUSSION

Dr E E MONTGOMERY, Philadelphia, felt that Alexander's operation should never be performed as a matter of choice and that ventrofixation and ventro-suspension should only be performed when the patient is past the menopause. He believed the intra abdominal operation devised by Ferguson to be the preferable one

Dr RICHARD H GIBBONS, Scranton, felt that either the operation devised by Webster of Chicago or Fdebaulis modification of the Alexander operation were excellent procedures but the latter was condemned by Dr Baldy, in closing the discussion, on account of the danger of hernia.

Some Observations on the Pathology and Treatment of Empyema

Dr P Y EISENBERG, Norristown, advocated 1 Free evacuation of the pus cavity 2 Aspiration 3 Free incision 4 Resection of a rib or ribs 5 Irrigation of the pus cavity 6 Drainage

DISCUSSION

Dr W W KEEN, Philadelphia, reported a case illustrating the necessity for adequate drainage and the removal of the enormously thickened serous membrane in the chronic cases

Dr LOWELL M GATES, Scranton, said that in most of the cases there should be resection of the ribs and drainage by means of drainage tubes

Dr RICHARD H GIBBONS, Scranton recommended gauze drainage

Dr ERNEST LAPLACE, Philadelphia, called attention to the possibility of multiple abscesses and the necessity for accurate diagnosis

Dr HERMAN B ALLYN referred to the difficulty of differentiating cases in which there was bronchial breathing from pneumonia

Dr JOHN B ROBERTS, Philadelphia, felt that resection of the ribs was in many cases unnecessary and should be determined by the study of the individual case

Dr G FRANKLIN BELL, Newberry, felt that the operation should depend on the bacterial element and the size of the abscess cavity.

Dr GEORGE W GUTHRIE, Wilkesbarre, felt that resection of the ribs was necessary in comparatively few cases, and recommended an incision in the most dependent portion of the pleura and the insertion of a double drainage tube

The Treatment of Suppurating Ulcers of the Cornea

This paper by Dr Lewis H Taylor, Wilkesbarre, was read by Dr Ernest U Buckman, Wilkesbarre, in which the author urged the importance of prompt attention to all wounds of the cornea and when they show a tendency to violent suppuration the application of the galvanic cautery

DISCUSSION

Dr B ALEXANDER RANDALL, Philadelphia, spoke with favor of the method employed by Lippincott of cauterizing the cornea with hot water, and preferred eserin to either cocaine or atropin

Dr W H DUDLEY felt that the method of Lamb of New York of circumscribing the area of the ulcer and thus preventing its extension was more efficient than trying to destroy it

Papers on Puerperal Sepsis and Appendicitis

"The Treatment of Puerperal Sepsis" was read by Dr E E Montgomery, Philadelphia, in which he emphasized the importance of differentiating between germinal infection and the results of putrid intoxication, and outlined the course of treatment appropriate to each

"Differences in the Management of Appendicitis and Salpingitis" was read by Dr George E Shoemaker, Philadelphia,

in which he stated that in salpingitis conservatism might be justifiable, while in appendicitis radical procedure was the only safeguard

"One Year's Work in Appendicitis" was read by Dr John B Deaver, Philadelphia, in which he reported 566 cases operated on between Sept 1, 1902, and Sept 1, 1903, with a mortality of 5 per cent. He divided the cases into three classes 1 Those suffering from diffuse peritonitis, in which 16 were operated on with five deaths, or 31 per cent 2 Those in which there was a localized abscess, numbering 183 cases with 22 deaths, or 12 per cent mortality. 3 Those in which the disease was confined to the appendix, numbering 367, with 3 deaths, or 0.8 per cent mortality. In conclusion he urged the necessity for early operation

Other Papers Read

The following papers were also read

"Gynecologic Therapy, a Plea for Operative Conservatism," by Dr Charles I Spangler, Kan Three Unusual Vesical Cases, with Operation" by Dr Ella B Everett Philadelphia "The Obstetric Experience of a Country Physician," by Dr H C McKinley, Myersdale "The Management of the Pus Appendix" by Dr G W Guthrie Wilkesbarre "The Value of the Differential and Absolute Leucocyte Count in Cases Simulating Appendicitis" by Dr A Snively, Waynesboro "The Treatment of Suppurative Appendicitis" by Dr Ernest Laplace, Philadelphia "Perforated Gastric and Duodenal Ulcers, with Report of Three Cases Operated On," by Dr John H Gibbon, Philadelphia "Extensive Decapsulation Combined with Fixation of Every Movable Kidney to Prevent Bright's Disease, Complete Decapsulation for the Cure of Bright's Disease and for the Relief and Prevention of Puerperal Convulsions" by Dr R H Gibbons Scranton "Four Cases of Penetrating Wound of the Orbit" by Dr A R Craig Columbia "A Sarcoma of the Maxillary Antium and Orbit," by Dr J F Klinedinst, York "Statistics Relating to 1,135 Cases of Refraction Occurring in Private Practice" by Dr M V Ball Warren "An Investigation of Certain of the Reflexes and Sensory Phenomena and the Condition of the Lve Grounds Based on a Study of 103 Healthy Young Men" by Dr Theodore Diller Pittsburg "The Upper Respiratory Tract" by Dr J C McAllister, Ridgeway "The Syphilitic Nose and Throat" by Dr Charles P Grayson Philadelphia "Some of the More Unusual Results of Movable Kidney" by Dr Charles P Noble Philadelphia "Surgical Treatment of Facial Palsy," by Dr Charles H Frazer, Philadelphia "Drugs Useful in Cardiac Affections" by Dr S Solis Cohen "A Fatal Case of Cholera Complicated by Endocarditis Pericarditis and Nephritis" by Dr Augustus A Pshnei "Four Cases of Malignant Diseases of the Lungs" by Dr J C Lange "The Eye of the Eye Associated with Diseases of the Eye" by Dr S D Risler, Philadelphia "The rabismus" by Dr Wendell Reyer, Philadelphia "Diagnosis of Danger Signals of Intracranial Infection" by Dr Jc "The Danger Cavities of the Ear and Nose" by Dr B Alex Randall Philadelphia "The Use of Myelocene in Catarical Deafness" by Dr Walter B Weldler, Lancaster "Some of the More Infrequent Causes of Obstruction of the Common Bile Duct" by Dr Levi J Hammond Philadelphia "The Results of the Surgical Treatment of Ascites Occurring in Cirrhosis of the Liver, with Report of a Case" by Dr Herman B Allyn, Philadelphia "Abdominal and Pelvic Surgery without Ligatures Electric Thermic Hemostasis," by Dr Andrew J Downes Philadelphia

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty ninth Annual Meeting, held at Memphis, Oct 7 to 9, 1903

(Concluded from page 1042)

In the surgical section a paper on "Technic of Mirror Sight" was read by Dr Allen De Vilbiss, Toledo, Ohio, who discussed why the general practitioner should understand the subject, and offered a few suggestions how to learn it

Principles in the Treatment of Chronic Otitis Media Purulenta.

Dr JOHN F BARNHILL, Indianapolis, stated that all aural discharges, except those due to tubercle or cancer, are curable by the methods used for similar conditions in other parts of the body. Cure would be simple and easy were it not for the concealed and inaccessible situation of the disease. All treatment is likely to be unwisely directed until the cause is ascertained. If, after all parts have been thoroughly treated that are accessible to surgical and medical measures through the route of the external meatus, the disease continues, sound surgical principle dictates that the disease should be followed to its origin and thoroughly eradicated. This necessitates, in most instances, the radical mastoid operation. Wilde's incision or gimlet trephining of the mastoid is not based on sound surgical principles and should be entirely abandoned

DISCUSSION.

Dr J A STUCKY, Lexington, Ky, said that there are those who still believe in the use of laudanum and sweet oil yet it

is well known that laudanum had no place as a local application in a chronically discharging ear. Furthermore, any oil except glycerin is positively contraindicated. He emphasized the importance of thoroughly cleansing the ear, saying that while this was apparently a simple procedure, nine times out of ten it was not half done.

Nasopharyngeal Adenoids.

Dr. J. A. STUCKY, Lexington, Ky., presented the following deductions: The obstructive and non-obstructive adenoid tissue, when diseased, is a menace to health, hearing, mental and physical development, and should be radically dealt with, as it is far more serious in its effects than disease and enlargement of the faucial tonsils. Frequently, when the pharyngeal tonsil is thoroughly removed, the enlarged faucial tonsils rapidly assume normal size and function.

DISCUSSION.

Dr. A. J. OCHSNER, Chicago, emphasized that adenoids are constantly exposed to the absorption of septic material.

Dr. J. F. BARNHILL said he believed that affections of the stomach arise from catarrhal discharges caused by adenoids. When it is realized that the greatest per cent. of all ear diseases is due to adenoids alone, from a causal standpoint it is very important to remove the cause.

The Diagnosis and Operation for Gallstones.

Dr. W. D. HAGGARD, Nashville, Tenn., in this paper, said that the most valuable local sign is hypersensitiveness under the tip of the ninth costal cartilage. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and empyema is also characterized by tumefaction. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and an enlarged gall bladder means there is no stone in the common duct, as enunciated by Courvoisier. This is a most valuable differential sign. In biliary obstruction manifested by chronic jaundice, an enlarged gall bladder means that the obstruction is not due to a stone. Gallstones and certain stomach, appendix or kidney lesions may coexist. The technic of various operations was described.

DISCUSSION.

Dr. H. H. GRANT said that exploration was justifiable whenever disease of the gall bladder was reasonably probable. It is more prudent to explore than to allow serious complications to arise.

Dr. LEWIS S. McMURTRY narrated a case to illustrate that there might be stones in the common duct without any jaundice, and, also, that in some of these operations there is danger of death from the inflammatory changes that have taken place.

Dr. A. H. CORDIER said that where the stones are in the common duct, regardless of whether there was jaundice or not, the pain is very much nearer the median line than when they are in the cystic duct or in the gall bladder.

The Prophylaxis of Tetanus.

Dr. S. C. STANTON, Chicago, contributed a valuable statistical paper, calling attention to the investigations of THE JOURNAL of the American Medical Association on this important subject. He recommended prophylaxis under five heads: 1. The enforcement of existing laws regarding the sale of toy pistols and other dangerous toys. 2. The enactment of laws by Congress, state legislatures and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc. 3. The open treatment of all wounds, however insignificant, in which, from the nature or surroundings, there is any risk of tetanus. 4. The immediate use of tetanus antitoxin in all cases of Fourth-of-July wounds, wounds received in barnyards, gardens, or other places where the tetanus bacillus is likely to be present or tetanus infection to occur. 5. The injection of tetanus antitoxin as soon as tetanic symptoms become manifest.

The association took action on the paper, endorsing the above recommendations and instructing the secretary to send the recommendations and the association's action thereon to

the medical press, the Associated Press, and the various state medical societies, asking that they take action thereon.

Indications and Technic of Prostatectomy.

Dr. G. FRANK LYDSTON, Chicago, pointed out that the senile prostate was an atrophied prostate. Catheter life lasts about five years. In prostatic hypertrophy, he believes the tumor to be purely adenomatous at the outset. He had no hesitation in saying that early operations on the prostate in otherwise healthy subjects are no more dangerous than interval operations for appendicitis. The perineal operation should be performed whenever practicable, but he was aware that there were cases which could not be dealt with successfully by this route; therefore, it might become necessary to do a combined perineal and suprapubic operation.

Surgery of Pulmonary Gangrene.

Dr. L. L. McARTHUR, Chicago, after reporting cases, presented these conclusions:

1. Since by medical treatment 80 per cent. of patients die and in those operated on about 29 per cent., efforts should be surgical.
2. While it is anatomically possible to separate the pleura from the chest wall, it is tedious, difficult and often futile (due to puncture), and, therefore, not much valuable time should be lost in such efforts.
3. Circular suture, combined with gauze pressure packing for forty-eight hours, is the best means of inducing adhesions.
4. The x-ray may give valuable aid in localization.
5. Great care should be used in the selection of cases for operation, but when localized and single, the most desperate cases should be given a chance, as they frequently recover with drainage.

The Present Status of Stomach Surgery.

Dr. A. J. OCHSNER, Chicago, in this valuable paper, discussed the various conditions in detail, and concluded that if severe pathologic conditions of the stomach exist, which can not be relieved medically in a reasonable period of time, and which can neither be traced satisfactorily to a neurosis nor secondary to gastric disease, nor to other conditions, it would seem proper to attempt relief by early surgical treatment.

Among the other papers read were the following:

"The Perfected Surgical Treatment of Fibroid Tumors of the Uterus," by Dr. Lewis S. McMurry, Louisville, Ky. "Changes in the Gullet Wall Following the Destructive Action of Escharotics," by Dr. Joseph Rilus Eastman, Indianapolis. "Extrauterine Pregnancy," by Dr. A. H. Cordier, Kansas City, Mo. "The X-ray in Fractures," by Dr. Duncan Eve, Nashville, Tenn. "Treatment of Compound Fractures, Immediate and Remote," by Dr. Frederic A. Besley, Chicago. "Ectopic Gestation," by Dr. Anderson Watkins, Little Rock, Ark. Dr. A. R. Craig, Columbia, Pa., reported cases of gunshot wounds; Drs. Bransford Lewis, St. Louis, and W. N. Wishard, Indianapolis, showed instruments, and Dr. H. J. Whitacre, Cincinnati, discussed "The Pathology and Treatment of Gangrene of the Lower Extremities."

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Eighteenth Annual Meeting, held in Baltimore, Oct. 23 and 24, 1903.

The vice-president, Dr. John Guiteras, Havana, in the Chair.

A welcome was extended by Dr. Eugene F. Cordell, president of the Medical and Chirurgical Faculty of Maryland and by Dr. William H. Welch, president of the Maryland State Board of Health.

Reports were presented on the following subjects: Rules Governing the Transportation of the Dead; Promotion of Uniformity of Reports on Vital Statistics; Work of the Maryland State Tuberculosis Commission. About 30 attended the conference.

New Officers.

The following were elected officers for the ensuing year: President, John M. Hurty, M.D., Indiana; secretary, Gardner T. Swarts, M.D., Rhode Island; treasurer, J. A. Egan, M.D., Illinois; vice-president, John S. Fulton, M.D., Maryland.

Papers were read as follows: 1, "Etiology and Prevention of Infantile Diarrhea," by Dr. J. H. Mason Knox, Baltimore; 2, "Are the Laboratory Methods of Diagnosis in Infantile Diarrhea Applicable in Public Health Work?" by Mr. Edwin G. Shorer, Baltimore; 3, "Duty of Sanitarians Regarding Venereal Diseases," by Dr. Henry D. Holton, Brattleboro, Vt.; 4, "Another Year's Test of the Mosquito Doctrine of the Transmission of Yellow Fever in Havana," by Dr. John Guiteras, Havana.

Yellow Fever and Mosquitoes.

Dr. GUITERAS reported that in over two years there had not been a single indigenous case of yellow fever in Havana. During the last year there were 8 cases admitted to Las Animas Hospital, all coming from Mexico; one of those died on the third day. There were 131 non-immune patients in the same institution during the same period, but the disease was absolutely controlled by isolation, wire screens, mosquito nets and destruction of the mosquitoes by burning pyrethrum powder in the rooms. The fatal case showed the value of these measures very strikingly. A man was over two days in the lower part of the city, the former focus of infection, before he went to the hospital. During this time he was bitten by mosquitoes repeatedly, yet by the destruction of these in the house where he had been and in the houses of the entire square, the spread was entirely prevented. Dr. Guiteras detailed the prophylactic methods, which are familiar to our readers.

The people of Havana have implicit confidence in the measures employed there, which can be readily carried out. The presence of a case of yellow fever creates no alarm. In one of the 9 cases, a patient coming on the steamer from Mexico was forcibly removed from it against the wishes of the captain, because the authorities of Havana knew they could deal effectually with it and feared if it were permitted to remain the vessel might become infected before reaching New York or the disease might get a foothold in that city.

Venereal Prophylaxis by Health Boards.

As a result of Dr. Holton's paper a committee was appointed in accordance with the following resolution, which was proposed by Dr. Probst and adopted by the conference:

WHEREAS, The great prevalence of venereal diseases, which is indirectly the cause of many deaths, is a matter of much concern to the public health; and,

WHEREAS, The communication of these diseases to innocent persons must be largely due to ignorance; be it

Resolved, That a committee of three be appointed by the president to prepare a leaflet that would be acceptable to physicians to give to their patients, setting forth the precautions to be taken by one suffering from a venereal disease to prevent its communication to others, and to make such other suggestions as it may deem proper. Such instructions, when adopted by this conference, to be recommended to state and provincial boards of health for dissemination among the medical profession, and said committee shall report at the next meeting.

National rules to govern the transportation of the dead were adopted.

The Etiology and Prevention of Infantile Diarrhea.

Dr. JOHN H. MASON KNOX, Baltimore, in the paper mentioned above, said that the pathogenicity of the *Bacillus dysenteriae* was now well established. In his own investigations no one type of the disease was associated with this organism; but all types of intestinal diseases, common among children in summer, were caused by the same organism. Laboratory investigation had shown two or three types of organism very closely related. Cases also occurred in winter. He emphasized the importance of supplying the children of our large cities with pure milk and uncontaminated water.

Mr. EDWIN G. SCHORER, Baltimore, in his paper, said that with the establishment of the etiology of infantile diarrhea a great step in advance had been made, yet, under the present conditions, methods of diagnosis are not available for, or applicable to, public health work. This last statement may, however, be limited, inasmuch as a bacteriologic diagnosis will undoubtedly be of value in the limited number of persistent cases of diarrhea and in those in which the anti-dysenteric serum is to be given.

DISCUSSION.

Dr. WILLIAM H. WELCH, Baltimore, was surprised that Dr. Knox had found the organism, which had been proven to be the cause of a prevalent group of cases of dysentery, to be the cause of summer diarrheas of children. The organism must be found in other localities than Maryland in order to demonstrate that it has any causal relation to summer diarrhea of children.

Dr. HENRY M. BRACKEN, Minneapolis, discussed the milk question, recommending certified milk when an artificial diet is necessary for children. More infants die every year, he said, from impure milk than from tuberculous milk. More

attention should be given to the sanitary aspects of the dairy than to the diseased animal. Certified milk and pasteurized milk are as satisfactory articles of diet as can now be obtained.

Dr. CHARLES O. PROBST, Columbus, Ohio, considered it very important to disinfect the stools in infantile diarrhea.

Mr. FRANK WELLS, Lansing, Mich., said the Michigan State Board of Health had published a leaflet on the subject of infantile diarrhea, which had been given wide circulation and which advised that all cow's milk given to infants should be pasteurized. The leaflet was furnished to all of the teachers of public schools in Michigan. It was the duty of boards of health, he thought, to furnish such information to the people.

Dr. HENRY MITCHELL, Asbury Park, N. J., urged repeated inspections of cases of diarrhea in both children and adults, as in cases of typhoid fever. The New Jersey legislature had given the State Board of Health authority to make such inspections.

Others discussed the subject and Dr. Knox, in closing the discussion, agreed with Dr. Probst that the disinfection of stools in infantile diarrhea is as essential as in typhoid fever. In answer to one of the questions asked, Dr. Welch said the Shiga organism was not present in normal stools. If it were, it was in such small numbers that it required the most painstaking investigation to find it.

NEW YORK STATE MEDICAL ASSOCIATION.

Tenetieth Annual Meeting, held in New York City Oct. 19-22, 1903.

The president, Dr. F. H. Wiggan, New York, in the Chair.

The New Officers.

The following officers were elected: President, Dr. William H. Thornton, Buffalo; vice-president, Dr. Charles S. Payne, Liberty; secretary, Dr. Guy D. Lombard, New York; treasurer, Dr. Frederick A. Baldwin, New York; delegates, Drs. Joseph W. Grosvenor, Buffalo, and E. Eliot Harris, New York.

It was announced that during the past year 14 new county medical associations had been added, and 372 persons added to the list of active members. The present membership is 1,757.

The association adopted the Kyger resolutions (which have been printed in THE JOURNAL) which call attention to the lessened birth rate among Americans and urge the prohibition of the publication of abortion advertisements. There were also adopted the American Medical Association resolutions on the examination of the eyes of school children. The association voted to continue the endeavor to have the office of coroner abolished.

Stab Wounds of the Abdomen.

Dr. F. J. DOUGLAS, Utica, read this paper, emphasizing the uncertainty of the symptomatology and the consequent necessity for prompt exploratory laparotomy. Probing was strongly condemned. After suturing any wounds of the viscera the cavity should be flushed out, and the wound closed, usually without drainage.

The Relation of the Municipal Milk Supply to the Health of Children.

Dr. GEORGE W. GOLER, Rochester, compared mortality statistics of that city for the two periods, 1891-96 and 1897-1902, i. e., the periods before and after the adoption of a bacterial standard of purity, and a systematic attempt to secure cleaner milk. This showed a reduction in mortality during the latter period of 65 per cent. for infants during the first year of life, and of 58 per cent. for children between one and five years of age. For the past four years the city of Rochester had endeavored to make the city milk conform to a standard of 100,000 bacteria per c.c. Just before this standard was made 27 per cent. of the samples analyzed showed an average of 837,000 bacteria; whereas just after this time 391 samples averaged 796,000 bacteria and 15 per cent. of the samples contained over five million per c.c. In 1901 the average was 275,000 bacteria, with 9 per cent. of the samples showing over five million bacteria. In 1902 the average was 215,000, 74 per

cent. of the samples coming within the standard and only 6 per cent. showing over five million. Since 1897 milk stations had been established during the summer for the purpose of supplying at cost clean milk for infants. Last summer this milk showed only 14,000 bacteria as against 235,000 bacteria per c.c. for the ordinary city milk on the same days.

DR. H. O. MARCX, Boston, described a method of refrigerating and condensing milk that had been in operation in New Hampshire for six years. Milk so treated would keep sweet for two weeks. He confidently expected it would revolutionize the milk business.

The Causes of Failure After Operation for Nephroptosis.

DR. AUGUSTIN H. GOELT, New York, read this paper. Among some of the causes enumerated were the following: (1) Delay in operating until the patient's condition was bad and the kidney disabled; (2) the existence of severe enteroptosis; (3) the neglect to so prepare the patient as to minimize retching and vomiting after operation; (4) incomplete detachment of the colon; (5) penetration of the structure of the kidney by sutures; (6) attachment of the kidney so low down as to expose it to the pressure of the corset; (7) to early removal of the sutures; (8) prolonged retention of the gauze drain; (9) allowing the patient to turn on the opposite side or to assume the erect position too soon; (10) the neglect to apply a proper support to the abdomen afterward or the too early use of the corset.

Ergot in Alcoholism and Morphinism, and the General Class of Drug Habit Cases.

DR. ALFRED T. LIVINGSTON, Jamestown, read this paper. He believed that the nervous disturbances experienced by these patients were the result of a disturbance of the vascular system, and that the restoration of the equilibrium of the circulation should be the object of treatment. This can be brought about in several ways, but the most certain and potent is by the hypodermic administration of ergot. This drug not only contracts the muscular coat of the blood vessels, but the degree of action is proportionate to the relaxation of those muscular fibers. The first step in the treatment of a drug habit is, of course, to wholly stop the use of the drug; the next is to give a purgative and begin the use of ergot. The bowels should be kept relaxed, preferably by giving one or two drams of the fluid extract of *Rhamnus frangula* from one to three times a day. Ordinarily, two or three injections of half a dram each of his 12.5 per cent. solution of ergot will be enough per diem, but occasionally it will be necessary to give it every two hours. (See formula, etc., in THE JOURNAL, March 21, 1903, page 774). He had never had a patient request the drug, or show any desire for it after the first forty-eight hours. In the very severe forms of the morphin or opium habit it was occasionally better to give, with the ergot, a fraction of the former daily dose of the drug, reducing the dose of the narcotic one-half each day until it is wholly stopped by the eighth day. In the treatment of these difficult cases the use of hypnotics should be avoided if possible. If they seemed to be urgently indicated, rather than give them he would resort to the use of galvanism. A current of 10 or 15 milliamperes should be employed, and should be applied to the cervical ganglia and, by stroking motions, to the whole length of the spine, holding the electrodes about five inches apart.

DISCUSSION.

DR. ALEXANDER LAMBERT, New York, spoke of his experience with the ergot treatment in the alcoholic wards of Bellevue Hospital. An experience of a number of years showed that in his service of six weeks there were usually 25 or 30 deaths under all the generally accepted methods of treatment, and that in the cases known as "wet brains" he could not save more than 3 per cent. Since the adoption of the ergot treatment his six weeks' service had yielded, on an average, only 6 or 7 deaths, and, most remarkable of all, he had only lost 2 out of 30 cases of wet brain. His method was to inject 30 minims of the solution of ergot, repeat this in one hour, and then give it at intervals of two hours. When a patient was disposed to be violent or greatly excited the first injection

contained, also, a dose of apomorphin, as this produced an almost immediate calming effect.

DR. F. H. WIGGIN also spoke favorably of the use of ergot in delirium tremens and obstinate insomnia, but said he had found it necessary to use doses of 50 or 60 minims.

Results of Operative Treatment of Cancer of the Rectum.

DR. JAMES P. TUTTLE, New York, read this paper and exhibited some patients. He gave the results obtained by him in 43 excisions, and asserted that no other method than extirpation had ever cured a single case of carcinoma of the rectum or sigmoid. Colostomy was the only operation that could be compared with it, and his belief was that colostomy did not prolong life and was only indicated when scirrhus growths completely occluded the gut, or the growth was of the hemorrhagic type. Extirpation gave complete relief and buoyed up the patient with the possibility of a cure. Of the 43 cases, 12 were unsuccessful; 22 are now living and well, after periods of from 2 to 11 years. The speaker said that every case of diarrhea, with or without bloody discharges, lasting over a fortnight should be subjected to an instrumental examination of the rectum or colon. A failure to make an early diagnosis is the greatest cause of death, and next to it came infection, but very often the latter could not be avoided. A carcinoma that was not movable was usually considered inoperable, but he had several seemingly hopeless cases that he had been tempted to operate on by the earnest entreaties of the patient, and the fact that every now and then life could be spared and the person restored to usefulness and comfort should make the surgeon chary about absolutely refusing to operate even though the chances of benefit were slight.

One of the Dangers in the Surgery of the Biliary Passages.

DR. E. D. FERGUSON, Troy, said that the surgeon should endeavor to secure a symptomatic cure rather than to do an ideal operation. The operation which gives the least shock is usually the formation of a temporary biliary fistula after the removal of the gallstones.

Extradural Abscess and Mastoid Disease.

DR. SEYMOUR OPPENHEIMER, New York, said that epidural abscess was the most frequent intracranial complication of mastoid disease, yet the early symptoms afford no basis for proper differentiation. Pain in the head over the affected area is an important symptom, which is apt to be paroxysmal and associated with exquisite tenderness. If rigors are present there is reason to suspect sinus involvement.

DR. FRANK W. HIGGINS, Cortland, suggested that in exploring the brain for pus accumulations it would be helpful to remember that these abscesses were three times more frequent in the middle than in the posterior fossa.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Toxic Actions of Urotropin.

The toxic action of urotropin, as described by Coleman in *Med. News*, is shown in some individuals, even though given in small doses. The symptoms of toxicity shown are irritation of the stomach; diarrhea and abdominal pain; measles-like rash; headache and ringing in the ears; renal irritation sometimes accompanied by albuminuria. The bladder sometimes presents toxic effects, strangury being the most common symptom. Hematuria and hemoglobinuria may occur. The toxic symptoms generally disappear within a few days after the drug is withdrawn. The author concludes that these toxic symptoms are caused either from special susceptibility to the action of the formaldehyd or to interference with its elimination or to an unusual liberation of formaldehyd in the system.

Cystitis.

There is an advantage, according to the *Jour. de Med. de Paris*, in prescribing salol internally in the form of an emulsion instead of powder form in the treatment of cystitis. The following formula is recommended:

R. Salol	gr. xxx-5i	2-4	
Pulv. tragacanthæ	gr. ii		12
Pulv. acaciæ	gr. xxx	2	
Tinct. tolutani	5i	4	
Syr. simp.	5ss	15	
Aq. destil. q. s. ad.	5ii	60	

M. Sig.: Ft. emulsio. Sig.: One teaspoonful before each meal.

The following combinations are recommended by *Merck's Archives* in the treatment of cystitis:

To relieve the pain:

R. Ext. opii	gr. vi	40	
Ext. hyoseyami	gr. v	30	
Olei theobrom. q. s.			

M. Ft. suppos. No. vi. Sig.: One to be introduced into the rectum at night; or:

R. Pulv. opii	gr. xii	75	
Camphoræ	5ss	2	
Ext. belladonnæ	gr. iii	20	
Olei theobrom. q. s.			

M. Ft. suppos. No. vi. Sig.: One to be inserted at bedtime.

As an antiseptic and to relieve the irritation the following is of service:

R. Ext. belladonnæ flu.	gtt. xx	130	
Sodii boratis	5ii	8	
Acidi benzoici	gr. xx	130	
Tinct. opii camph.	5iiss	45	
Olei gaultheriæ	gtt. xii	75	
Syrupi	5ii	60	
Aq. destil.	5iv	120	

M. Sig.: One dessertspoonful in water four times a day.

Acute Gastro-Enteritis of Nurslings.

There are three therapeutic indications according to Hutinel in *Interstate Med. Jour.*, for the treatment of acute gastro-enteritis occurring in infants:

1. To remove the source of the poisons which form in the intestine.

2. To prevent the pathogenic germs in the intestinal tract from finding a favorable culture medium.

3. To restore to the body the water it has lost.

He states that all the foregoing conditions can best be met by the withdrawal of all food and giving sterile water alone. When there is much tendency to vomit the water should be given cold; if there be algidity, hot water should be used, in either case giving small quantities at a time—a dessertspoonful or a tablespoonful every fifteen or twenty minutes. For infants five or six months old the total quantity should not exceed one and a half pints in the twenty-four hours. This treatment must not continue longer than twelve to fifteen hours, for a young infant, if any improvement is shown; for older children it may be continued twice that long. Gastric lavage is indicated when there is persistent vomiting, and if thrush is present a mild alkali may be added to the lavage water. The writer relies entirely on small and repeated doses of calomel for intestinal antiseptics. Castor oil may be used if the stomach is not too irritable.

Colonic flushings are sometimes valuable, using mucilaginous solutions or the normal saline solutions, never using boric acid on account of its toxic effects on infants. Warm cataplasms should be applied to relieve the tympanites.

Where there is tendency to collapse hypodermoclysis of salt solutions should be given.

Warm baths are of value in reducing the hyperpyrexia. The return to food must be gradual, using diluted milk, butter-milk or koumyss with the addition of flour.

Treatment of Stye.

According to an abstract in *Med. Record* the lash should be removed from the center of the inflammatory area. The swelling should be carefully touched with tincture of iodine or

pure carbolic acid. When pus is present it should be released by a small incision. The pain will be relieved by warm fomentations. A weak mercurial ointment will generally cause the disappearance of the remaining thickening of tissue. The diet should be regulated when there is any constitutional disturbance.

To Relieve the Cough in Pneumonia.

The following combinations are recommended by *Text-Book of Applied Ther.* in the treatment of the cough in pneumonia:

R. Codeinæ	gr. i	106	
Quininæ sulph.			
Pulv. camphoræ, āā	gr. xvi	106	
M. Ft. cap. No. viii. Sig.: One every three hours; or:			
R. Ammon. carb.	5i	4	
Syr. pulveris doveri	5iv	15	
Syr. pruni virg.	5iiss	45	
M. Sig.: One teaspoonful every two or three hours.			

Lichen Pilaris.

The following combinations have been recommended by *N. Y. Med. Jour.* in the treatment of lichen pilaris:

R. Sulphuris precip.			
Fuller's earth			
Venetian talc. āā	gr. lxxv	5	
M. Ft. chartula. Sig.: Apply as required.			

The following have been successfully used by Saalfeld:

R. Sulphuris precip.	5iiss	14	
Saponis mollis			
Adipis, āā	5i	30	
Venetian talc.	5iv	15	

M. Sig.: Apply locally; or:

R. Saponis mollis	5iiss	45	
Naphthol	5iiss	14	
Cretæ prep.	5iiss	10	
Lanolini			
Adipis, āā	5iiss	45	

M. Sig.: To be used at night.

Brocq recommends the following:

R. Amyli glyceriti (neutral)	5iiss	105	
Acidi tartarici	gr. lxxv	5	

M. Ft. lotio. Sig.: Apply locally. For the immediate treatment of these cases Hyde recommends the hot bath with soap followed by inunctions of lanolin pomades, or the fats or oils. In congenital types cod-liver oil should be given internally.

Sweating of the Feet.

The following combinations are recommended by *Merck's Archives* in excessive perspiration of the feet:

R. Acidi salicylici	gr. xv	1	
Tannoformi	5iiss	6	
Pulv. orris	5i	4	
Pulv. talci	5iii	12	

M. Ft. pulvis. Sig.: Apply locally; or:

R. Formaldehyde	5iv	15	
Petrolati	5ii	8	
Lanolini	5iv	15	

M. Ft. unguentum. Sig.: Apply freely at night; or:

R. Pulv. acidi borici	5i	4	
Pulv. amyli	5iii	12	
Tannoformi	5ii	8	
Olei caryoph.	gtt. i		06
Olei lavendulæ	gtt. iii		20

M. Sig.: Use as a dusting powder.

In axillary bromidrosis the following is recommended:

R. Creolini	5i	4	
Ext. violet	5iv	15	
Alcoholis deod.	5iii	90	

M. Sig.: Wash the armpits with warm water followed by an application of the lotion.

Uranium Nitrate in Diabetes.

There is no disorder of the system in which empyricism has assumed a more important place in therapeutics than in the treatment of diabetes mellitus. W. R. Jones, in *Virginia Semi-Monthly*, states that he derived splendid results from the use of uranium nitrate in the treatment of this disorder of metabolism. In every case in which this preparation has

been used by the author great improvement has resulted. It should be given in doses of gr. 1/6 (.01) to gr. 1/2 (.03) four times a day, administered in water, alcohol or glycerin. The salts of uranium, while not luminous, are strongly fluorescent, which, according to the writer, lends interest because of the discussion of radium at the present time. But whether the fluorescent property in any way affects metabolism can not be stated. He refers to the action of uranium on the skin producing a fine desquamation of the superficial layers of the epidermis somewhat similar to the effect of the *x*-ray. The degree, however, is very moderate and gradual. The general nutrition and activity of the skin is increased as well as the diaphoretic action, so that it is recommended for its beneficial effects on metabolism.

It is a yellowish-green, crystalline solid, soluble in water, alcohol, ether and glycerin. Some authors give it in 1 to 2 gr. (.06-.12) doses.

[The value of this preparation in diabetes because of its amylolytic and proteolytic action has been discussed by Dr. Samuel West. He employed it in the treatment of diabetes. It relieved the subjective symptoms and reduced the amount of sugar.]

Arsenic is a well-tried remedy in the treatment of diabetes and experiments have proved its value in reducing the formation of glycogen. The bromid of arsenic may be given made up as follows after the formula of Clemens:

R. Potassii carb.		
Acidi arsenosi	gr. vi	40
Aque destil.	℥i	
		30

M. Boil until dissolved and when cooled add:

Aquam q. s. ad.	℥iss	45
Bromum	gr. xii	
		75

M. Sig.: One to five drops once or twice daily.

The following formulæ are often of value in reducing the quantity of sugar in the urine:

R. Lithii carb.	℥i	4
Sodii arsenatis	gr. i	
Ext. cascariæ	gr. xv	1
		06

M. Ft. capsulæ No. xxx. Sig.: One after each meal.

Uranium nitrate may be prescribed in solution as follows:

R. Uranii nitratis	gr. xv-xxx	1-2
Syrupi simplicis	℥i	30
Aque folniculi	℥iii	90

M. Sig.: One teaspoonful after each meal three times a day.

Codein is another preparation which is used as much, perhaps, in the treatment of diabetes as any other drug. This may be of service not only because it favorably influences the sugar elimination, but it also alleviates, to some extent, the pains which so frequently accompany this condition. It may be given as follows:

R. Codeinæ sulph.	gr. viiss-xv	150-1.
Syr. simplicis	℥ss	
Aq. aurantii q. s. ad.	℥ii	60

M. Sig.: One teaspoonful three times a day.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Idaho—Physicians to Report and Quarantine.—Section 1152 of the political code of Idaho as set forth in the revised statutes is amended by an act on pages 364 and 365 of the Idaho Session Laws of 1903 so as to read: It is the duty of every practicing physician to report promptly to the county physician of the county in which he resides, all or any dangerous disease of an infectious or contagious nature under treatment by him, and he is also hereby empowered and required to at once establish a strict quarantine against such person or premises by such means as shall seem to him to be sufficient, subject to revision by the county board of health, and said board must at once take the necessary precaution to prevent the spread of such dangerous or infectious disease, and any person violating the provisions of this act, or the regulations

of said attending physician, or of the county board of health, is guilty of a misdemeanor.

Indiana—Creation of Anatomical Board.—Chapter XXXI of the Acts of Indiana of 1903 provides for the creation of a board for the control and distribution of the unclaimed bodies of persons dying in public institutions of, or charitable institutions aided by, the state, and which would otherwise be required to be buried at public expense or at the expense of such public institutions. The board is to be known as the state anatomical board and is to consist of the president of the State Board of Health, ex-officio, who shall act as the chairman, and one representative from each of the incorporated medical and dental schools of the state actually engaged in teaching, to be selected by and from the faculty thereof. Exceptions are made as to the bodies of persons dying with smallpox, diphtheria or scarlet fever, and to those of travelers dying suddenly, except those belonging to the class commonly known as tramps. The board or its agent may receive the bodies and shall distribute such as are received among such schools and physicians entitled thereto as request in writing to receive the same, preference being given to the incorporated schools. Each college shall receive annually, as nearly as may be practicable, such proportion of the entire number of bodies distributed as the number of bona fide students enrolled and in regular attendance at such school shall bear to the total number of bona fide students at all such colleges. All bodies shall be delivered in regular order so as to maintain an equitable allotment; and bodies assigned to any school in regular order and refused by it without sufficient cause shall be charged against its quota. No school or physician shall receive any body without first giving to the state a bond for \$1,000, conditioned that all such bodies received shall be used only for the promotion of the science and art of medicine and of dentistry, and that the record containing descriptions of deceased bodies shall be preserved from loss. Nothing in this act shall be construed to prevent any duly incorporated medical or dental college, or any duly licensed practitioner from acquiring, by gift or otherwise, from persons having lawful authority to dispose of the same, the dead body of any human being for the purpose of postmortem examinations, dissection or other scientific use. But desecrating graves, trafficking in bodies referred to herein or in bodies known to have been unlawfully taken is made a felony, punishable by imprisonment for not less than three nor more than ten years.

Indiana—To Restrict Dangerous Communicable Diseases.—Chapter LXXXIII of the Acts of Indiana of 1903 provides that any physician called on to attend a sick person and who finds the cause of such sickness to be of a contagious or infectious character, or if the disease is ordered to be reported in the rules of the State Board of Health, such physician shall immediately report the facts to the secretary of the board of health having jurisdiction. Whenever any person knows, or has reason to believe, that any member of his (or her) family or household (boarder, roomer or visitor) has any communicable disease listed in the rules of the State Board of Health, he shall immediately, if no physician is in attendance, give notice to the local health officer. The health officer being notified in any way of the existence of any of said diseases shall immediately quarantine the infected premises so as effectually to isolate the case or cases and the family, if necessary, in such manner and for such time as may be necessary to prevent transmission of the disease; and, whenever a house or room is placed in quarantine, a placard shall be posted in a conspicuous position, giving the name of the disease in letters not less than two inches long, and also containing the following order: "All persons are forbidden to enter or leave these premises without special permit from the health officer having jurisdiction, and all persons are forbidden to remove or mutilate this card, or to in any way interfere with this quarantine without orders from said health officer." When visiting persons afflicted with such infectious disease, all physicians and health officers shall take precautions as directed in said rules. Other provisions make it the duty of the health officer to investigate, etc., whenever he knows or suspects or is informed

of the existence of a communicable disease, dangerous to the public health, and to disinfect the premises, etc., after the recovery or death of infected persons. After examination and determination by two physicians in good standing and practice that a person is sick with a contagious, infectious or pestilential disease, the state or local board of health may cause such person to be removed to a proper place for care, and may cause to be removed or destroyed articles infected or likely to communicate disease, when in their opinion the safety of the public health requires it. Children infected with, or having been exposed to any communicable disease shall not attend any school, or appear in public in any way, and all school teachers shall exclude all such children unless a written permit to attend is given by the health officer. In all cases of death from cholera, bubonic plague, leprosy, typhus fever, yellow fever, smallpox, diphtheria, membranous croup, scarlet fever, and cerebrospinal meningitis, the funeral shall be strictly private, and the burial shall be made within twenty-four hours after death. No public or church funeral shall be held or any person permitted to enter the house containing the remains, except the undertaker and his assistants, unless by permission of the health officer, and buried remains shall not be disinterred or removed without permission from the State Board of Health. All trolley, street or electric cars or other public conveyances which are known, or which may reasonably be supposed to contain the infection of any disease, shall, on order of the health officer of that jurisdiction, be disinfected according to the rules of the State Board of Health and the cost of disinfection shall be paid by the owner of said cars or conveyance; provided that any and all inspections and fumigations of such cars be at such times and places as not to interfere with the general traffic of the road. If at any time any city, town or region is under quarantine, all trolley, electric and street railroad companies through any such quarantined city, town or region, shall obey the quarantine orders of the State Board of Health, which are issued for the purpose of preventing the spread of infection.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia

October 17

- 1 *One Year's Work in Appendicitis. John B. Devere.
- 2 *On the Influence of Potassium Sodium Tartrate on the Circulation. Felix Kleeberg.
- 3 *The Interrelations of Diabetes and Other Constitutional States. George F. Butler.
- 4 *Cardiac Complications of Influenza. E. G. Wood.
- 5 *Special Aids to the Early Recognition of Pulmonary Tuberculosis. W. L. Dunn.
- 6 *Antistreptococcal Serum in the Treatment of Inflammatory Rheumatism and Other Diseases with Report of Cases. G. H. Sherman.
- 7 Relation of the Medical Profession to Public Education. L. K. Baker.

1—See Society Proceedings, this issue.

2 Potassium Sodium Tartrate.—This paper by Kleeberg gives the results of experimental research on the action and circulation of potassium sodium tartrate. The apparatus employed was the kymograph of Ludwig. Dogs were used for the experiments, in each case the animal receiving an injection of $\frac{1}{4}$ grain of morphia sulphate half to three quarters of an hour before the beginning of the administration of ether. The cannula was invariably introduced into the carotid artery and the salt injected into one of the crural veins. The results are summarized as follows:

1 Potassium sodium tartrate when introduced intravenously in small amounts (up to 300 mg. per kilogram of dog) causes a fall in blood pressure and an irregularity in the rhythm of the heart's action. This may be accompanied by a primary slowing of the heart's beat but the dominant action is to cause an increase in the rate of pulsation. The fall in pressure occurs even though the quantity of salt injected contains less than 3 mg. of potassium per kilogram of dog. If the amount introduced is larger and yet insufficient to cause complete paralysis of the heart, the fall in blood pressure is accompanied by a slowing of the heart. If the salt is introduced in comparatively large quantities the animal quickly expires owing to paralysis of the heart, respirations con-

tinuing for some moments after the heart has been arrested in diastole.

2 Neutral sodium tartrate when introduced intravenously in moderate amounts (about 50 mg. per kilogram) stimulates the heart causing a rise in blood pressure, with a slight increase in heart rate.

3 The depressing factor is the potassium ion, and the sodium and tartaric acid ions are without influence in causing the depression.

3 Diabetes.—The predominant symptom of diabetes, glycosuria, may, Butler says, be the expression of many other diseases; sometimes it is only the result of an excess of carbohydrates. He enumerates a number of conditions in which glycosuria may occur, such as neuroses, insanity, autotoxic types of gout and mental disorder. He reviews the various neurotic manifestations which may attend the diabetes and the motor and sensory lesions in trophic disorders. Among the former are fatigue, lassitude, monoplegias, imperfect coordination, vertigo, etc. The most serious symptom is coma. There are included under this title many conditions varying from mental depression through apathy to stuporous states. In nearly all, the mental features and the concomitants of coma center, like all depressional mental states from acidosis, around the medulla oblongata. Their starting point is central not local. The condition of the arteries also is a factor in the etiology of glycosuria. Hereditary defect may show itself at the periods of stress, the change from infancy to childhood, puberty, adolescence, the climacteric and the period of senility, when the system is undergoing evolution or involution.

4 Influenza.—Wood notices the various organic and functional disorders of the heart attending influenza, and comes in conclusion that study and observation force him to believe that influenza is a potent and not uncommon factor in the production of serious cardiac disease, and that there are frequently degenerative changes in the heart wall. In weakened subjects or elderly persons these changes may lead to grave symptoms. In view of the dangers of cardiac complications the routine treatment of the disease with drugs like phenacetin, acetanilid, etc., can not be too strongly condemned, certainly not in patients past middle life.

5 Tuberculosis.—Dunn holds that the value of percussion or auscultation findings and of symptoms is dependent on the recognition of the limitation of their significance. The temperature is a guide only with frequent regular observations and an auscultation chart made while listening to the sounds is an essential aid to accuracy of both observation and record. Negative sputum findings are never sufficient ground for negative diagnosis, and blood examinations aid only in the incipency of the disease except in excluding the conditions in which the blood findings are characteristic. The significance and reliability of agglutination are not yet fully established. The tuberculin test is a safe, reliable, practical and justifiable diagnostic measure where its use is indicated, that is, in suspected early cases where other means of diagnosis have failed. When a positive diagnosis can be made without its use it should be condemned as a meddling procedure. He notices, however, in regard to the use of tuberculin one peculiar reaction he has observed three times: a fall of temperature to subnormal, a feeling of general weariness and depression, aching not marked or absent and local reaction more or less marked. He can not explain the phenomenon. He did not care to give a second larger dose just to see whether a rise of temperature could be produced, but does not believe that these cases should be confused with the unfortunate case reported by Heron at the British Congress on Tuberculosis.

6 Antistreptococcal Serum in Rheumatism.—A number of cases are reported by Sherman, showing the therapeutic value of antistreptococcal serum, 2 of erysipelas, 1 of miscarriage and 9 cases of rheumatism. In all his rheumatic cases there was a typical clinical history of inflammatory rheumatism with early evidences of more than usual severity in certain ones. All the patients had good digestion. None developed heart complications, and while the serum treatment was used no other treatment was resorted to. The results varied from marked improvement after the first or second dose to complete recovery in a short time. The local effects of the injections were not serious. He thinks that antistreptococcal serum

might also benefit muscular, sciatic and chronic articular rheumatism. At least a trial would do no harm and might lead to good results.

Medical News, New York.

October 17.

- 8 *Bronchiectasis in the Tuberculous; an Unusual Case Reported. S. Edwin Solly.
- 9 *Early Recognition of Impending Obstetric Accidents. Joseph R. De Lee.
- 10 Thiolocol in the Treatment of Croupous Pneumonia. E. Fletcher Ingals.
- 11 Pathology and Prophylactic Treatment of Puerperal Sepsis. J. Clifton Edgar.
- 12 The Development of Our Knowledge of Puerperal Infection. Brooks H. Wells.
- 13 *Sublimine in the Treatment of Parasitic Scalp Diseases. William S. Gottheil.
- 14 *The Importance of the Surgical Treatment of Chronic Middle Ear Suppuration. Edward B. Dench.

8. **Bronchiectasis in Tuberculosis.**—Hoffmann's suggestion that bronchiectasis can not occur as a complication of tuberculosis is commented on by Solly, who reports a case which in its way is exceptional. He has found no record of a similar one. The patient was a woman subject to frequent attacks of bronchitis with periods in which there was a great deal of spasmodic coughing without expectoration, depression of health, but no fever and then a continuous fever, not intermittent, cough diminished, still no expectoration, emaciation, general depression, gastro-intestinal indigestion and no relief of the fever from treatment. Then a rapid increase in the temperature with bacilli first appearing. With the administration of iodid of potassium, which seemed to cause an absorption of lymph and the free escape of tuberculous matter, there remained an ordinary mild hectic fever with free expectoration and moderate cough, with occasional exacerbations of the high, continued fever which existed before, again relieved by the iodids. Finally, a period of six weeks of almost steady improvement with free but slightly diminishing cough and expectoration. Locally there was an old inactive tuberculous process at the right apex and solidification around the root of the right lung with slight incomplete atelectasis of the right lower lobe. Following the attack these two conditions were diminished with some return of activity at the extreme right apex. Hoffmann admits that small bronchiectatic areas are not infrequent in cases where there have been circumscribed processes in the apices and a tendency to recovery by subsequent fibrosis. In this latter category Solly places his case.

9. **Obstetric Accidents.**—De Lee holds that the pregnant woman is neglected in general practice. Patients are not examined to ascertain the size of the pelvis and to see if the heart, lungs, kidneys and liver are normal or if the pregnancy is normal, and he claims that by a moderate amount of intelligent supervision nearly all obstetric accidents might be prevented, or at least mitigated. Careful attention to the study of the patient and watching for symptoms of deficient excretion or toxemia would have much effect in obviating the occurrence of eclampsia. Family and personal histories should be carefully studied, both as to this and hemorrhages. As regards placenta previa, he says, if the woman has endometritis and if it has caused some puerperal anomaly before, look out for placenta previa. If there is even the slightest show of blood after the fifth month keep it in mind. He also advises careful examination to ascertain the presentation before labor, and to study the possibilities that may lead to puerperal infection. Lastly, he mentions the care of the child.

13. **Sublimine.**—Gottheil has used this remedy in an epidemic of ringworm that occurred in a large orphan asylum, largely due to overcrowding. Other remedies, creosote, formalin, croton oil, mercury bichlorid, iodine, etc., had been employed. About 100 cases were treated with sublimine and, aside from a certain number of chronic and probably incurable ones, they all did well. Its action was more rapid than bichlorid, as might be expected, as since it has equal bactericidal with greater penetrative power and can be employed in stronger solutions. There was no doubt that it was more effective than all the other remedies employed and less irritating. Bacteriologic examination revealed the fact that a parasite indistinguishable from that of ringworm could be obtained

from apparently healthy scalps. It was possibly a less virulent type, or the usual form kept in depressed growth by prophylactic measures. They finally came to trust in macroscopic evidences for cure, leaving aside the bacteriologic tests.

14. **Middle Ear Suppurations.**—Dench's article goes at length into the treatment, etc. He recapitulates as follows:

In all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper air tract, this tract should first be put in a normal condition.

In case of persistent but slight discharge from the ear, the operator may advise the removal of the carious ossicles, together with thorough curettement of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

Medical Record, New York.

October 17.

- 15 *Radium; with a Preliminary Note on Radium Rays in the Treatment of Cancer. Margaret A. Cleaves.
- 16 *Stricture of the Male Urethra. Henry G. Spooner.
- 17 *The Need of Organized Effort in the Prevention of the Spread of Tuberculosis. F. M. Pottenger.
- 18 Extensive Brain Loss without Impairment of Intellectual Faculties. Walter Keate.
- 19 Eczema Cured by Measles. G. W. Squires.

15.—See abstract in THE JOURNAL of October 17, p. 879.

16. **Urethral Stricture.**—Spooner, in his article on urethral stricture, gives its definition, anatomy, symptoms and course, with illustrations explaining the types.

17. **Tuberculosis.**—Pottenger insists on the importance of educating the public as to the methods of checking tuberculosis. He says its communicability must be impressed on the minds of the people, but these facts must not be exaggerated. There is no danger in associating with tuberculous patients if they are careful and follow the necessary precautions. As regards notification, he thinks it works in favor of the afflicted instead of against him. It would not be for public use, but simply for the information of the health officer.

Boston Medical and Surgical Journal.

October 15.

- 20 *Parasyphilitic Affections, or Remote Effects of Syphilis. Abner Post.
- 21 *Some Observations on Blood Pressure in the Insane. William R. Dunton, Jr.
- 22 *The Formation of Loose Cartilages in the Knee Joint. E. A. Codman.

20. **Parasyphilitic Affections.**—This paper, the author states, is practically a condensation of Fournier's book with comments and quotations from other sources. He reviews the various post-syphilitic conditions.

21. **Blood Pressure in the Insane.**—Dunton has experimented with the use of the Riva-Rocci manometer on a considerable number of insane, and concludes:

1. The findings of other writers that (a) the blood pressure is increased in depressive states and decreased in excited states, and (b) that the motor condition has a greater influence on the blood pressure than does the mental condition, have been confirmed.

2. A moist skin has no especial influence on the blood pressure, although active perspiration may.

3. There was no constant daily variation, as has been noted by Schaeffer and others.

I feel that further conclusions are not justified by the cases presented here and others which are in a too incomplete state to justify publication. This paper will have fulfilled its mission if others are stimulated to observe blood pressure.

Too much importance should not be ascribed to this symptom. Its accurate observation has its value, and will probably have a greater value later when we have a better knowledge of how it is influenced by various bodily conditions. The general clinicians are adding to this, and we should do our part by observing how it is influenced in mental affections.

22. **Loose Cartilages.**—Codman has skiagraphically investigated the etiology and formation of loose cartilages ("joint mice") in the knee joint, which he says must comprise two injuries: one to depress the cartilage and one to free it. He has observed three stages and illustrates them by skiagrams, and has produced the first stage experimentally on the cadaver. The practical surgical point to be learned from the studies he has made is that in operating the articular surface of the internal condyle should be inspected. Torn or displaced semilunars do not show by the x-ray.

New York Medical Journal.

October 17.

- 23 *Some Aspects of Genitourinary Disease, from a General Practitioner's Point of View. William H. Thomson.

- 24 *The Value of Albuminuria in Differentiating Pyelitis from Cystitis Thomas R Brown
 25 On Determining the Specific Gravity of Small Volumes of Urine, with a Preliminary Note on a Special Hydrometer A De Santos Sixe
 26 and W Holmes
 27 Strabismus William G Craig
 28 *Differences in the Management of Appendicitis and of Salpingitis George D Shoemaker
 29 Treatment of Bellrium Tremens (Concluded) Dudley Fulton and others

23 **Genito-urinary Diseases**—The points made by Thompson in this article are especially the high tension pulse of nephritis, which he considers due to an agent similar to adrenalin in the blood causing kidney shrinkage and diminished urea excretion. Acute he finds the best vasodilator and restorer of the urea output. He remarks also that in urine examinations we are apt to give our attention too exclusively to discovering what ought not to be found in it. There are many cases that suffer from too little elimination of urea due to gastro intestinal disorders, and there is a close relationship between the alimentary canal and urea elimination by the kidneys. The tension of the pulse in these cases of functional renal inefficiency is low instead of high. The patients feel worse in the morning and better in the evening, as if there were some nocturnally generated poison in the blood. In these cases he would give a bi-weekly dose of mercury alternated with compound mercuric powder and the steady administration of intestinal antiseptics such as sodium or ammonium benzoate or capsules of salol with castor oil. He also alludes to certain emergencies that may occur such as septic infection of the kidneys in the course of chronic nephritis, and in conclusion describes a perineal pad which he has found beneficial in cases of chronic spermatorrhea.

24 **Pyelitis**—In the nine cases reported by Brown the demonstration of a considerable quantity of albumin in the urine was of the greatest possible value in making a diagnosis of pyelitis. In a number of these it was the first thing to call attention to infection of the kidneys. He thinks that in any case in which in association with pyuria there is a considerable albuminuria, there is a great probability, if not a certainty that an infection of the kidney is present except in those cases where the albumin is due to a high grade of hematuria or to nephritis, in which case the presence of casts will demonstrate the cause of the albuminuria.

27 **Convergent Strabismus**—Craig dwells on the importance of early and systematic efforts in the direction of improving the eye in cases of convergent strabismus and outlines the different procedures. In conclusion he calls attention to the following points which summarize his ideas on the subject:

- 1 The earlier the child is seen the better the prospect for a cure.
- 2 The vision of squinting eyes can in a majority of cases be improved and some function restored if treatment is begun early.
- 3 A small percentage of cases of convergent squint can be cured by mydriatics, glasses and proper exercises alone without operation.
- 4 The correction by non-operative methods is much to be preferred as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided.
- 5 Operative procedures should be employed in those cases in which non-operative treatment after a thorough trial has failed, and in those cases in adults in which we operate for the cosmetic effect.

28—See Society Proceedings, this issue

St. Louis Medical Review October 10 and 17

- 30 Anomalies and Vontositoses, with Report of a Case J N Nelms
 31 *The Value of Ophthalmic Examinations in the Differential Diagnosis Between Typhoid Fever and Acute Miliary Tuberculosis Clarence Loeb
 31. **Tuberculosis**—Loeb describes a case, diagnosed as typhoid, in regard to which ophthalmologists differed as to the eye appearances. He diagnosed them as tubercles of the choroid. The autopsy showed a disseminated miliary sclerosis and tubercles were obtained from the tumors. He calls attention to the value of the ophthalmic findings in such cases.

Cincinnati Lancet-Clinic October 17

- 32 On the Histopathologic Alterations of the Lymph and Blood Vessels in Syphilis A Ravogli

- 33 Surgery of the Prostate, Pankreas, Diaphragm, Spleen and Thyroid (Continued) B Merrill Ricketts

University of Pennsylvania Medical Bulletin, Philadelphia September

- 34 *Report of a Case of Decapsulation of the Kidney for Chronic Pnuchymatous Nephritis James Tyson and Charles H Frazier
 35 A Clinical Chart with Some Remarks on the Relation of Applied Anatomy to Physical Diagnosis and a Brief Anatomic Description Albert P Francine
 36 A Case of Femoral Thrombosis in Chronic Dysentery Thomas S Githens
 37 *The Effects of Aspidospermin on the Respiration and Circulation Horatio C Wood Jr, and Daniel M Hoyt
 38 Some Notes on Artificial Neurotoxic Serum V E Henderson

34 **Kidney Decapsulation**—Tyson and Frazier report a case and comment on the procedure. (See Society Proceedings, this issue.)

37 **Aspidospermin**—This product of the well known quebracho blanco drug has been experimented on by Wood and Hoyt, who find that it leads to increase in the amount of air moved in the lungs. This seems to be independent of any increased muscular activity or changes in the blood, and is probably due to stimulation of the respiratory center. Further researches, however, on the action of the drug are necessary to determine its precise value in practical medicine.

New York State Journal of Medicine, New York October

- 39 Foreign Body in a Bronchial Tube, Recovery Thomas A McGoldrick
 40 *Some Peculiarities of the Pulse in Typhoid Fever J N Bassett
 41 Sporadic Cretinism with Report of Three Cases Hermon C Goldfarb
 42 *Spurious Gastric Symptoms Allen A. Jones
 43 Ocular Incoordination and Cerebral Reflexes F Park Lewis
 44 Smallpox William A MacPherson
 45 Intestinal Obstructions W C Phelps
 46 The Cure of Hernia Gilbert D Giegler

40 **The Pulse in Typhoid**—In two cases here reported with temperature records, the course of the pulse was not in accordance with the temperature curve in typhoid fever. Bassett, therefore, concludes that the pulse does not follow the temperature or indicate the severity of the disease. Cases in which the pulse rate has not at any time in the course of the fever risen above 100 have proven fatal. The fact is, however, that slow pulse occurs with high temperature so seldom in typhoid fever that it is not mentioned by some authors.

42 **Spurious Gastric Diseases**—The difficulty of always recognizing the nature of the apparently gastric symptoms is noticed by Jones, who remarks on the various causes of pain in the epigastrium, and the need in all cases of gastralgia of a differential diagnosis between the rather rare essential gastralgia and cholelithiasis. In the absence of symptoms and physical signs of gallstone colic the diagnosis is not always readily made. Vomiting is not a sure symptom of gastric disease. It may be due to cholecystitis, uremia or other causes. Appendicitis in its various phases and effects needs attention. In a good many cases local evidences are not so advanced that they are definite and easily determined. Reflex hyperchlorhydria may confuse the diagnosis. Pancreatic disease is another condition which, while relatively uncommon, may be confusing. Obscure tubercular peritonitis that causes no tumor may give rise to gastric symptoms. Heart lesions may also simulate gastralgia. He reports a case in which rupture of the heart was thus mistaken. Angina pectoris sometimes simulates gastralgia, and this should be borne in mind if gastralgia yields to nitroglycerin. Arteriosclerosis, arteriospasm and syphilis may also cause confusion, but the use of the iodids in the latter case will show the nature of the condition. There may also be true sclerosis of the arterioles of the stomach, causing ulceration, or diaphragmatic pleurisy may excite reflex pain in the gastric region and only close study will determine the true nature. In his experience, he says, pain in the stomach is very rarely the result of pelvic disease, while vomiting is a common result. Disease of the pelvic organs is one of the causes of spurious gastric symptoms. We should be on the lookout for pelvic disease that may elude a superficial examination. Lastly, he mentions eyestrain as a cause of various stomach symptoms.

California State Journal of Medicine, San Francisco.

October.

- 47 Lupus Erythematosus. Alfred B. Grosse.
 48 The San Francisco Quarantine Station. Hugh S. Cumming.
 49 *A Few Illustrative Cases of Diphtheria. Fred G. Burrows.
 50 *Abdominal Drainage. Stanley Stillman.

49. Diphtheria.—Burrows points out that the mortality and morbidity of diphtheria are greater in California than in other parts of the United States, notwithstanding the fact that the climate of California ought to be less favorable to its extension than those of eastern parts of the country. He reports a number of cases and believes that if proper attention to the antitoxin treatment be given, the death rate and morbidity can be very decidedly lowered. He thinks that 99 per cent. of the cases can be saved in the California climate if properly taken care of and treated early with antitoxin.

50. Abdominal Drainage.—Stillman would limit drainage after intraperitoneal operation to cases where there is a single or multiple walled-off collection of pus or where necrotic tissue must be left behind or those where the intestine is seriously damaged and the suturing is faulty and likely to give way.

Albany Medical Annals.

October.

- 51 Acute Ulcerative Endocarditis. Samuel B. Ward.
 52 *Varicella, with Report of an Unusual Epidemic. Spencer L. Dawes.
 53 *The Surgical Treatment of Malignant and Non-Malignant Diseases of the Stomach. Albert Vander Veer.

52. Varicella.—Dawes reviews the symptomatology and etiology of varicella and discusses its relations with variola. He thinks the strongest argument for the duality of the diseases is the age question. Though cases of varicella do occur in adults, to all intents and purposes it is limited to the first fifteen years of life. During these years, if variola occurs it is severe while varicella is almost invariably mild. He remarks on the slight mention which this disorder receives in text-books, while other diseases which can not be more serious and are certainly less important in their etiologic relations are given much more consideration. Four cases are reported.

53. Diseases of the Stomach.—Vanderveer discusses the treatment of malignant and non-malignant diseases of the stomach, describing the operations, and concludes that gastroenterostomy can be applied to all forms and conditions of pyloric stenosis and is preferable to resection of the stomach in many cases, having less mortality and the possibility of good results being fully as great. Next to this he believes that gastrectomy is the best operation, but its utility is very limited. In its performance great attention should be paid to the removal of the lymph glands, as much of the permanent success of the operation depends on this point.

Fort Wayne Medical Journal-Magazine.

September.

- 54 *Some Things to Be Remembered in Surgery. J. C. Fleming.

54. Things To Be Remembered in Surgery.—The special points emphasized by Fleming are the importance of hot moist dressing in cellulitis, the value of picric acid in burns of the second and third degrees, the bad policy of probing bullet wounds in general, the fact that gunshot wounds of the extremity and chest require simply watchful expectant treatment, while those of the abdomen require immediate laparotomy, and those of the brain require operative interference and removal of the bullet if possible.

Richmond Journal of Practice.

September.

- 55 Diet and Drugs in Nephritis. William S. Gordon.
 56 *Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
 57 Chyluria. M. D. Hoge, Jr.

56. Skin Grafting.—The various methods of treatment of raw surfaces in order to hasten epidermization are noted by McGuire, who speaks in favor of the use of oleaginous dressings which have fallen into unmerited disfavor. Dry dressings he does not favor, as he thinks their good effects are only temporary. He finds considerable benefit from the treatment

of granulating wounds by the use of dressings that supply food directly to the cells. Such he finds furnished in Valentine's meat juice, diluted in three parts water, and applied on cotton as a moist dressing. It does good for a short time, but then loses its effects. When the pale granulations become pink and healthy it should be discontinued. Alternative dressings have their place as well as the protective. Most of his article is devoted to a description of the methods of skin grafting, and he especially notices his experience with the use of heterographs. He has had occasion to test whether the skin of the negro would lose its pigment on a white person, and has found in a colored man that white skin grafts retained their color. He says for obvious reasons this has deterred him from reversing the experiment and grafting negro skin on a white man. He has had good results with the use of pigskin grafts, showing clearly that pigskin will grow under these circumstances. Dr. William Flegenheimer has reported a case of successful pigskin grafting by Wolfe's method, and Dr. Brown of the University of Virginia has personally reported to him another.

Maryland Medical Journal, Baltimore.

October.

- 58 A Case of Filariasis Observed in Maryland. William F. Lockwood.
 59 *The Care of the Insane. Frederick Peterson.
 60 *A New Treatment for Wry-neck. Leonard K. Hirshberg.
 61 Maryland's Need of a Mountain Sanatorium for Indigent Consumptives. Henry Barton Jacobs.

59. Care of the Insane.—Peterson describes the advance that has been made in the care of the insane in New York state, the thoroughness and perfections of the state care, improvement in administration, rise of scientific standards in the hospitals and the great increase in the comfort and care of the patients. These all have been brought about with a diminution of the expense of maintenance.

60. Wry-Neck.—In the treatment here described by Hirshberg he advises the use of the faradic current over the sternocleidomastoid and trapezius of the healthy side. Three cases are reported.

Virginia Medical Semi-Monthly, Richmond.

October 9.

- 62 Relations of the Medical Profession and Public to Each Other; Responsibilities of One and Demands of the Other; Work and Achievements of the Profession, and Benefits and Blessings Received by the Public. William S. Christian.
 63 *Treatment of Eclampsia. J. M. H. Rowland.
 64 *The Salts of Uranium in Diabetes, with Some Remarks in Regard to Their Physiologic Action. William R. Jones.
 65 Urinary Analysis in Chronic Bright's Disease. M. D. Hoge, Jr.
 66 The Terminal Symptoms of Chronic Bright's Disease. William S. Gordon.

63. Eclampsia.—The idea of Rowland's paper is to impress on the reader that more care of the pregnant woman is desirable and possible and that the toxemia of pregnancy may easily be prevented, and even the severer toxemias of pregnancy need not in the vast majority of cases cause eclampsia if properly managed. That immediate forcible dilatation of the cervix and delivery in eclampsia is not always justifiable, though the early delivery of the child is desirable when it can be accomplished without serious injury to the mother. The use of chloroform and morphin has probably been overdone, and the use of chloral and normal saline solution, hot packs, nitroglycerin and veratrum viride has been neglected or these measures have been improperly used. Other things being equal, the constant, intelligent attention of the physician during the whole period of the attack will be successful in causing recovery in a very large percentage of cases.

64. Diabetes.—Jones recommends the use of uranium nitrate in diabetes. It has, he says, a powerful effect on metabolism, and the patient's general condition improves while under its administration. The tormenting thirst, extreme weakness, excessive urination and glycosuria are gradually relieved. Dr. E. J. Moseley reports a case of diabetic ulceration which rapidly healed under the internal use of the salt after resisting all other methods. In every case in which Jones has employed the drug he has seen great improvement. He reports a case of advanced diabetes mellitus in which uranium nitrate was given in a dose of one-fourth a grain three times a day,

with occasional intermissions of three days, for about two months. The patient began to improve from the first, and at the end of that period the restrictions on the diet were gradually removed with no return of the glycosuria, and eighteen months later the patient was apparently in perfect health.

Archives of Pediatrics, New York.
September.

67 *Infections of the Newborn. Samuel McC. Hamill and William R. Nicholson.

68 *Injuries and Infections of Newborn Children. Irving N. Snow.

69 *Disturbances of Respiration in the Newborn. W. Reynolds Wilson.

67. Infections of the New-Born.—The infections described are mostly hemorrhagic and congestive conditions terminating fatally. A number of cases are reported with autopsies and bacteriologic studies. The staphylococci were present in nearly all: in one there was a bacillus resembling the colon bacillus. Streptococci and other organisms were also present in some of the cases. These infections occur most frequently in the maternity hospitals, and Hamill and Nicholson are inclined to consider them largely due to careless nurses. The greater frequency of air infection is not supported by facts, for in nearly all the cases there was a mixed infection. The symptoms may include profound toxic conditions, emaciation, nervous phenomena, skin eruptions, icterus, fever or diarrhea, etc. As regards diagnosis, the authors remark that any elevation of temperature, notwithstanding the frequency of fever in early infancy, should arouse suspicion. In most cases which they have seen, enteritis has been an early symptom, and next in order, perhaps, the papulovesicular eruption on the skin of the neck, face, shoulders or forearms, hence, if one sees this combination of fever, green mucous stools, skin eruption and rapid emaciation, one is justified in considering the condition an infectious one. Several cases which they studied postmortem had been diagnosed inspiration pneumonia. Differentiation between blood infection and lung involvement on the basis of the symptoms and physical signs is sometimes not possible. The prognosis is bad. For prophylaxis they advise greater care in the handling of the cases by the nurse, especially the proper toilet of the mouth. Every nurse who has handled the bedding of a patient, treated fissured breasts, emptied a bed-pan or changed a napkin, should be most careful in preparing her hands before she does anything to the mouth of these infants. The recognition of fissure or any other pathologic condition should cause an immediate withdrawal of the infant from nursing. The practice of continuing suckling under these conditions should be condemned. A change of environment is sometimes successful in streptococcus infections, and Delestre has claimed good results from the withdrawal of small quantities of blood, 2 or 3 c.c. or more, following it with the injection of a little larger quantity of artificial serum. The authors question the possibility of getting sufficient blood by a single bleeding to have much effect, judging from their difficulty in securing blood for cultures. Medicinal treatment is that of the symptoms, supplemented by vigorous stimulation and good nourishment.

68. Injuries and Infections of New-Born Children.—Snow analyzes the death records of Buffalo and compares them with the European statistics of Eröss. He finds that the mortality in Buffalo is greater in the first week. It would appear that more children die there from the accidents of parturition and fewer from infections than in Europe. The occurrence of cerebral and meningeal hemorrhages, etc., is noted. The former may occur in small children that are easily born. The prognosis, of course, of intracranial hemorrhage is bad. Snow reviews a series of cases of diarrheal diseases in new-born children among well-to-do families with good hygienic surroundings, and while the mode of infection is obscure, he is convinced that the mother's milk was the cause in some cases. In one instance the child was probably infected in the par-turient canal, possibly by swallowing infected amniotic fluid.

69. Respiratory Disturbances in the New-Born.—The first of these conditions which confronts the practitioner is asphyxia; the next congenital atelectasis. Cases have been reported where there has been respiratory failure apparently of bulbar

origin. In opposition to these cases are those due to toxic influences or alimentary disturbances of which Wilson gives instances. Dyspnea may arise from congenital conditions, such as cardiac malformations. The dyspnea of pneumonia lacks the paroxysmal attacks, the breathing is frequently irregular and of the Cheyne-Stokes type. The fever and physical signs may be absent in weakly children so that a differential diagnosis between pneumonia and atelectasis is impossible. Congenital stenosis with dyspnea may occur, and dyspnea of the convulsive type arise from enlargement of the thymus gland. When signs of intrathoracic trouble are wanting, the symptoms may point to alimentary disturbance. In these cases dyspnea is not usually the primary manifestation; green stools, fever, anorexia, etc., are likely to precede the attack. Diaphragmatic hernia offers a complexity of symptoms in which dyspnea predominates, though it is rare and probably very seldom causes confusion in the diagnosis. Rapidity in respiration is commonly met with, either paroxysmal and transient or continuous. Dyspepsia and febrile conditions may be the underlying causes. It may be a symptom of the common pulmonary affections. The author reports a case in which respiratory disturbance was associated with gonorrheal ophthalmia, and the septic intoxication of the child was probably the result of a mixed infection. This blennorrhea in itself would hardly account for the condition. The source of infection was obstetric rather than congenital.

Illinois Medical Journal, Springfield.
October.

70 *What Shall We Do in Cases of Severe Spinal Injury. E. Mammen.

71 The Metric System. John A. Koch.

72 A Case of Continued Development of the Fetus in Utero. After Rupture of the Membranes and Escape of the Liquor Amnii. H. W. Chapman.

73 The Curette in Puerperal and Non-puerperal Cases. W. P. Davidson.

74 Lacunar Tonsillitis. James M. Brown.

75 *A Simple Method of Appendectomy. Emil Ries.

76 Surgical Mania or Insanity Following Surgical Operations. William H. Maler.

77 *The Diagnosis and Treatment of Obscure Syphilitic Lesions of the Eye. E. F. Snyder.

78 Psychotherapeutics. E. A. Edlen.

70. Spinal Injury.—Mammen reports several cases of treatment of severe spinal injury, and formulates the following general principles as applicable to this class of injuries: 1. Where no fracture or dislocation has occurred, but a degree of paralysis exists, absolute and physiologic rest is of importance, 2. If fracture and dislocation occur, as in fractures elsewhere, there should be an attempt to restore the parts to their normal condition by manipulation, extension, and if need be, operation. 3. After injury or operation the spinal column should be held in position by a proper immobilizing apparatus, jacket, splint, and jury-mast, or combinations of these. Where pressure exists from depression of the arch or from hemorrhage, laminectomy should be resorted to as early as possible.

75.—This article has appeared elsewhere. See THE JOURNAL of July 18, §22, p. 205.

77. Syphilitic Lesions.—Snyder divides syphilitic lesions into two classes: 1. Those due primarily to syphilitic poisoning amenable to specific treatment; 2, those secondary post-syphilitic changes which are not thus amenable. Primary ophthalmic atrophy must be reckoned with the latter as also choroidal changes, retinal lesions, etc., that fail to yield to mercury or iodine. Clinically all specific lesions of the eye are obscure. A history, examination, exclusion and therapeutic tests are requisite. In the treatment of eye lesions of the first class we employ antisyphilitic remedies; in the latter we avoid such remedies, employing rather a tonic and strengthening form of treatment. He reports cases.

Journal of Cutaneous Diseases, New York.
September.

79 *Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses. M. B. Hartzell.

80 Recent Contributions to Our Knowledge of the Hysterical Neuroses of the Skin. Arthur Van Harlingen.

81 Recurrent, Progressive, Bullous Dermatitis in a Hysterical Subject. Charles J. White.

October.

82 *Dermatitis Venenata: a Supplemental List. James C. White.

- 83 A Case of Symmetrical Gangrene. Edward B. Bronson.
 84 The Presence of Peculiar Calcified Bodies in Lupus-like Tissue. T. Caspar Gillehrst and W. Royal Stokes.
 85 *A New Drug Eruption of the Iodoform Type. S. Poltzer.
 86 Two Peculiar Cases of Fragilitas Crinium. George T. Jackson.
 87 Note on a Rapid Method of Diagnosis in Leprosy. Francis J. Shepherd.

79. **Precancerous Affections of the Skin.**—Among these Hartzell notices inflammations peculiar to workers in tar and paraffin, chimney sweeps' dermatitis, which are known to undergo malignant change, and also lupus vulgaris, which in a small proportion of cases is followed by epithelioma. Other forms of cutaneous tuberculosis, such as the varicose type, may also thus terminate and erythematous lupus has been observed to thus change. Ulcerating lesions of tertiary syphilis in rare instances become the seat of cancer. New growths of the skin, warts and pigmented nevi show the greatest tendency to such change. Cicatrices arising from any cause; chronic leg ulcer, especially cicatrices from burns, various forms of circumscribed keratosis, such as cutaneous horns, callosities, the palmar and plantar lesions resulting from arsenical poisoning, and senile keratomata form an important group of precancerous affections. He calls attention to the fact that in a considerable proportion of cases marked hyperidrosis precedes the appearance of the keratosis. The most frequent and perhaps the most important form of precancerous keratosis, the one most deserving of the term, is the so-called senile seborrhea of the French authors, or the senile keratoma of Besnier, which is the better title. It occurs as pinhead to dime-sized, more or less elevated, friable and slightly greasy, or dry and hard, yellow brown or black crusts which are firmly adherent to the skin. When forcibly removed the underside of these crusts shows numerous small spines, which have filled the dilated mouths of the follicles, and the skin beneath is moist and red or frequently superficially ulcerated. There are usually no subjective sensations. It occurs most frequently in the forehead, upper parts of the cheeks, the nose, back of the hands and in those engaged in manual labor or exposed to the weather. In its course, the disease is variable. Many of the patches remain unchanged for years; a few are gradually transformed into superficial epitheliomatous ulcers which slowly enlarge, with all the characteristics of a papillomatous epithelioma. Notwithstanding its frequency and tendency to terminate in malignant disease, it is little noticed in works on dermatology. Almost the only adequate account is that given by Dubreuilh, presented at the International Congress of Dermatology in 1896. Within the past year or two Hartzell has studied a number of these cases and gives the pathologic findings with illustrations.

82. **Dermatitis Venenata.**—White offers in this article a supplementary list to that given in his work on dermatitis venenata in 1887. He mentions first the irritants generally recognized, among them certain new hair dyes such as chlorhydrate of paraphenylene-diamin and "aureole," containing metol, amidophenol-chlorhydrate and monoamidophenylamin. Several instances of dermatitis from these have been observed. He also refers to cases reported from phenyl-hydrazin-hydrochlorid, salol, orthoform, resorcin, pyoctanin, creolin, iodvasogen, kerosene and electricity. He remarks that while petroleum is not irritating, kerosene applied for parasites is capable of producing a fine papular dermatitis. He has also seen eruptions follow application of electricity. Dermatitis produced by the x-rays does not require mentioning. In his second class are irritants not generally recognized. He mentions "aurantia" (hexa-nitro-phenyl-amin) a dye used to stain leather yellow; green ebony, guaiacum, hops, which belong to a dangerous family (the *Urticaceæ*), *Heracleum giganteum*, *Angelica archangelica*, hyacinth bulbs, *Cotoneaster microphylla*, an ornamental plant belong to the *Rosaceæ* family, *Humea elegans*, the ginkgo tree, etc. Of the suspected plants he mentions the trumpet vine and the woodbine, which are sometimes credited with being poisonous, but are probably confused with the *Rhus toxicodendron*. He also quotes from Dr. Chestnut of the Poisonous Plant Investigation Bureau, who mentions the common radish, the common dogwood, the commercial pawpaw, common dog fennel and the common field

daisy as occasionally irritating to the skin; also several species of hypericum and buckwheat, and the laportaeas, which are, however, confined to the tropics and only seen in hot-house cultivation.

85. **A New Drug Eruption.**—Poltzer reports cases of dermatitis from the use of mesotan which has been considerably used as an anti-rheumatic by local application. He also mentions that some eruptions have followed the use of aspirin, but they were evidently due to idiosyncrasy and not, as in his case of mesotan dermatitis, the effect of the prolonged action of the drug.

Medicine, Detroit.

October.

- 88 *Notes on the Serum Therapy of Scarlet Fever. Heliodor Schiller.
 89 *A Case of Typhoid Cholecystitis with Calculi, but without Any Evidence of Typhoid Fever. Jesse M. Burlew.
 90 *The Relation of Appendicitis to Injury. Harold N. Moyer.
 91 *A Statistical Study of the Postmortem Findings in 171 Cases of Lobar Pneumonia. Ellis K. Kerr.
 92 The Sphygmomanometer. Richard L. Sutton.
 93 Anatomy and Physiology of the Urethral Muscles, with Especial Reference to the Diagnosis and Treatment of Gonorrhea. F. Baumann.

88. **Scarlatina.**—The serum therapy of scarlet fever is favored by Schiller, who thinks all streptococci are closely related, and that any antistreptococcal serum ought to have some effect on scarlet fever cases. In his own experience here reported he was unable to get the Moser and Tavel serum, but obtained material made probably somewhat after the Marmorek method which he employed in two cases, both septic. A decided change was noted after the serum injection. The earlier treatment, consisting of the use of Credé's ointment, the care of the mouth, strychnin, dietetic and hydropathic measures, caused no improvement, but a change for the better was seen after the serum injections. In both the cases there was a relapse which he credits to renewed invasion of the system by the streptococci. Reaction from the serum was again prompt.

89. **Typhoid Cholecystitis.**—A case is reported by Burlew and he discusses the literature, tabulating cases which are notable as bearing on the relation of the typhoid bacillus to gallstone formation and as showing the length of time in which the bacillus may persist in the gall bladder after the primary attack of typhoid, producing at remote periods cholecystitis and cholelithiasis. The occurrence also of suppurative cholecystitis of typhoid origin, complicating direct attacks of typhoid fever, is possible. A typhoid cholecystitis may develop without the co-existence of a previous attack of typhoid.

90. **Appendicitis.**—Moyer raises the question as to the medicolegal bearings of traumatism and appendicitis, and quotes authorities. In the case he observed, appendicitis occurred the seventh day after a fall, to which it was attributed. He questions to some extent the probability of the appendiceal lesion being the result of so remote an injury.

91. **Pneumonia.**—From 782 consecutive autopsies in the Cook County Hospital and a discussion of the literature, Kerr summarizes as follows:

1. The maximum frequency of deaths from pneumonia is from 35 to 40 years, while of those due to all causes it is in the next decade. 2. Fatal cases are somewhat more frequent in males. 3. There is a preponderance of unilateral cases, of the right side over the left, and of the lower lobe over the upper lobe. (Crossed pneumonia is rare. 4. A majority of the cases are in the stage of gray hepatization. 5. Edema of the lungs and bronchitis are common, while abscess and gangrene of the lungs are rare. 6. Acute parenchymatous changes occur in the parenchymatous organs with a marked frequency. 7. The serous membranes are involved in the following proportions:

Pleuritis	70 per cent.
Pericarditis	12 per cent.
Endocarditis	8 per cent.
Meningitis	6 per cent.
Peritonitis	5 per cent.
Arthritis	very rare.

8. Pericarditis occurred with pneumonia of the lower lobes in all but 2 cases, and of the right middle lobe in these 2 cases. In Steven's series it is found with the upper lobe alone in 4 cases. 9. The preponderance of vegetative endocarditis and the preference for the mitral valves differ from the usual experience. 10. The frequency of meningitis associated with endocarditis is noteworthy. 11. Jaundice does not seem to be accompanied by any uniform change in the liver. 12. The frequency of occurrence of pneumonia as a terminal infection is noteworthy. The presence of chronic pathologic lesions in a large number of cases is also remarkable. These findings are of importance from a standpoint of prognosis chiefly.

Colorado Medical Journal, Denver.

July.

- 94 A Practical Study of the Maxillary Antrum. A. R. Solenberger.
 95 Hemorrhoids and Their Treatment. J. O. Roberts.
 August.
 96 The Prognosis of Those Diseases Incident to Military Service in the Philippines. George Richardson.
 97 Opium Poisoning. J. W. Coleman.

September.

- 98 Intubation of the Larynx and Intubation Instruments. F. E. Waxham.
 99 Surgery of the Prostate. W. W. Grant.
 100 The Diagnosis of Cancer of the Stomach. A. E. Engzellus.

Canadian Journal of Medicine and Surgery, Toronto.

October.

- 101 The Medical Expert as a Witness. W. R. Riddell.
 102 The Country Doctor. James S. Sprague.
 103 *Some Clinical Indications for the Use of the Electric Light Bath. T. D. Crothers.
 104 Gynecologic Surgical Clinic at the Metropolitan Hospital, New York. Augustin H. Goelet.
 103.—This article has appeared elsewhere. See THE JOURNAL, vol. xl, 193, p. 404.

Kansas City Medical Index-Lancet.

October.

- 105 Drinking Water from a Hygienic and Sanitary Standpoint. Jean R. Moechel.
 106 Psychic Force, a Therapeutic Power. Henry S. Munroe.
 107 The Value of Laboratory Methods of Diagnosis. Herman E. Pearce.
 108 The Management of Abortion. C. B. Harbin.
 109 Cerebral Softening or Encephalomalacia. John Punton.

Medical and Surgical Monitor, Indianapolis, Ind.

September 15.

- 110 Spirality, Constrictions and Dilatations of the Ureter. Byron Robinson.
 111 Etiology of Nephritis—*Bacillus Coli Communis* (?) J. W. Crismond.
 112 Alumni Address. Alumni Association of Central College of Physicians and Surgeons. John T. Scott.

Canada Lancet, Toronto.

October.

- 113 The Surgery of To-day. Alex. Hugh Ferguson.
 114 *The Lymph Circulation in Modern Medicine. H. A. McCallum.
 115 Eye Strain and the Literary Life. George M. Gould.
 116 The Inter-relation of Diabetes and Other Constitutional States. George F. Butler.
 117 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.
 114.—See abstract in THE JOURNAL of September 5, p. 626.
 117.—Ibid., p. 627, also title 125 below.

Indiana Medical Journal, Indianapolis.

October.

- 118 *How to Close Wounds. Miles F. Porter.
 119 Report of a Case of Intestinal Obstruction. J. T. Freeland.
 120 Surgery a Specialty. C. B. Stemen.
 121 Treatment of Chronic Rheumatism. William F. Bernart.
 118.—This article appeared in THE JOURNAL of July 25, p. 219.

Merck's Archives, New York.

October.

- 122 The Proper Administration of Drugs. J. M. French.
 123 Prophylaxis and Treatment of Phthisis Pulmonalis. Louis L. Wagner.
 124 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Canadian Practitioner and Review, Toronto.

October.

- 125 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.
 126 The Country Doctor. James S. Sprague.
 127 Sanatoria for Consumptives. E. J. Barrick.
 128 Two Cases of Unusual Nervous Disease. W. B. Thistle.
 129 *Some Business Aspects of Medical Practice. N. A. Powell.
 125.—See abstract in THE JOURNAL of September 5, p. 627, also title 117 above.
 129.—This article has appeared elsewhere. See THE JOURNAL of September 19, title 125, p. 750.

Nashville Journal of Medicine and Surgery.

August.

- 130 Annual Report of Cases, Briggs's Infirmary, Season Beginning Sept. 10, 1902; Ending Aug. 1, 1903. (To be continued.) Samuel S. Briggs.

Atlanta Journal-Record of Medicine.

October.

- 131 The Etiology and Pathologic Anatomy of Aneurism. W. Lowndes Peple.
 132 Concerning the Symptomatology of Thoracic Aneurisms. Truman A. Parker.
 133 Gelatin Treatment of Aneurism. Ennion C. Williams.
 134 Double Mammary Abscess, with Report of Case. O. L. Holmes.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 10.

- 1 The Medical Curriculum. E. A. Schäfer.
- 2 *Discussion on Practical Experience Regarding the Most Satisfactory Methods of Performing Intra-abdominal Anastomosis. G. H. Makins, E. Stanmore Bishop and others.
- 3 *Discussion on the Treatment of Advanced Tuberculous Disease of the Knee Joint. G. A. Wright, W. F. Haslam and others.
- 4 *A New Route for Posterior Gastrojejunostomy. J. Basil Hall.
- 5 *One Danger of Gastroenterostomy. W. McAdam Eccles.
- 6 Two Cases of Ascites Secondary to Alcoholic Hepatitis Treated Successfully by Operation. Sinclair White.
- 7 Notes of a Case of Operative Treatment for Cirrhosis of the Liver. William Sheen.
- 8 *Separation of the Acetabular Epiphysis of the Femur. Henry Betham Robinson.
- 9 Ultimate Results in a Series of 88 Cases of Fracture of the Tibia and Fibula. (To be continued.) R. W. Murray.
- 10 On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two New Statistical Reports. A. E. Wright.

2. Intra-abdominal Anastomosis.—Makins' paper was abstracted in THE JOURNAL, Aug. 29, 1903, p. 571.

Dr. E. S. Bishop followed Makins. He says in summarizing his points:

The use of decalcified bone bobbins is advisable in operations for union in the gastric region and the upper part of the small intestine, mainly because they act as a protection during the early stages of union and because the intestinal contents in these segments are liquid and possess certain chemical and digestive properties, from which the line of union in these regions needs to be protected. The use of such appliances is doubtful in the lower small intestine and is absolutely contraindicated in the large, mainly because of the solid or semi-solid nature of their contents.

In choosing a mode of suture, that one is to be preferred which gives the most perfect security against leakage in consequence of its yielding to the peristaltic strain, exposes itself the least and so minimizes the irritation and consequent adhesion of surrounding peritoneal surfaces, by which later obstruction may be produced, and which removes the inevitable diaphragm formed by the necessary inturning of the bowel ends, so as to leave a smooth internal surface. The use of forceps, . . . or the preliminary crushing of the intestine . . . all of which are based on the idea of producing sphacelation of the inturned edges of the gut, are of very doubtful value, are associated with unnecessary risk of later perforation, and should not be preferred to simple suturing or to suture over some absorbable and protective appliance.

He advises a previous colotomy in removal of neoplasms, etc.

In further discussion Elsworth says he finds the Murphy button a satisfactory method; others say they have supplanted it almost entirely with suture. Mayo Robson thinks the Murphy button a dangerous appliance.

3.—This paper was abstracted in THE JOURNAL, Sept. 12, 1903, p. 678.

4. Posterior Gastrojejunostomy.—Hall mentions his method, which he calls the supracolic operation, the posterior wall of the stomach being reached by an opening made in the gastro-colic omentum instead of the transverse mesocolon. The gastro-colic omentum is a thin, practically bloodless membrane, and there is, therefore, no chance of interference with the vascular supply; there is no risk of contraction of the opening causing pressure on the loop of the jejunum and hence no necessity for suturing the margins of the aperture to the stomach wall as recommended in the case of mesocolon:

An incision of 3 in. at once exposes the gastrocolic omentum. The loop of the jejunum is hooked up with the index finger and clamped. A fold of the posterior wall of the stomach is drawn through the aperture in the gastro-colic omentum, and, after shutting off the peritoneal cavity with gauze, the anastomosis is completed outside the abdomen. In making the anastomosis I use a double row of continuous suture, an inner one of catgut to unite the cut edges and including all the layers, so as to control any bleeding points, and an outer serous suture of silk. I have given up all mechanical appliances, because I find I can do better with the jejunum lies in front of the colon. I do not believe that this is any disadvantage; indeed, I am strongly of the opinion that the objection raised against this arrangement is entirely a false one. I have had the opportunity of examining two subjects postmortem on whom gastrojejunostomy had been performed for malignant disease.

He tabulates a number of cases and reports a trial of this method, which he thinks combines the use of both anterior and posterior operations and avoids their disadvantages.

5. Gastro-enterostomy.—Eccles calls attention to the danger of gastro-enterostomy from extensive manipulation necessitated

by delivery of the stomach for the proposed operation. In many cases either of sarcoma or ulcer which is apparently healed but placed under tension it may lead to perforation and peritonitis or hemorrhage. He reports a case of this kind.

8. Separation of the Acetabular Epiphysis of the Femur.—Several cases are reported by Robinson which he thinks establish the following points:

1. That we have to deal with genuine cases of separation of the acetabular epiphysis. 2. That injury, although it determines the separation, is aided in its effect by an antecedent change at the epiphyseal line. 3. That this pathologic change is presumably similar to what occurs in the coxa vara cases of adolescence, as suggested by Springel.

The Lancet, London.

October 10.

- 11 *Syringal Hemorrhage Into the Spinal Cord. William R. Gowers.
- 12 The Relationship of the Military Medical Service to the Civil Profession. V. Warren Low.
- 13 A Case of Diabetic Intraocular Lipemia, In Which the Blood Was Examined During Life. W. Hale White.
- 14 *On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two Further Statistical Records. A. E. Wright.
- 15 Some Remarks on 50 Cases of Bilharzia Disease, with Special Reference to the Characters of the White Corpuscles Found in the Blood and Urine. S. R. Douglas and F. W. Hardy.
- 16 *Some Investigations on the Urine of Children. Arthur W. Fuller.
- 17 *Some Observations and Comparisons on the Dietetic and Drug Treatment in Chronic Pulmonary Tuberculosis. D. Lloyd Smith.

11. Syringal Hemorrhage of the Spinal Cord.—Gowers calls attention to the possible presence of cavities in the spinal cord due probably to defective development and the dangers which they incur by hemorrhage into their lumen. He refers to cases in which dissection showed that this has occurred and reports other cases where symptoms pointed, he thinks, to this condition. There was local paralysis and anesthesia without any evidence of disease of the brain and pointing directly to a special local hemorrhage. It is seldom fatal and the diagnostic question is of considerable importance. When the death occurs it seems to be the result of erosion of extravasations into the substance of the cord or to a secondary spreading of the inflammation. He notices the importance of rest in these cases, not always prone on the back which might favor hemorrhage but in any position that would less favor the additional escape of blood. The importance of posture is especially insisted on.

14. Antityphoid Inoculation.—Wright gives tables showing the incidence of typhoid and its death rate in India during 1901 and in Lord Methuen's column at Modder River, South Africa, from December, 1899, to March, 1900. In both a certain portion of the troops were inoculated with the antityphoid serum. The incidence rate of typhoid was diminished to less than one-half, and the mortality rate as given in the Indian army was only one-sixth as great among the inoculated as among the uninoculated.

16. The Urine of Children.—Fuller has studied the urine of 63 healthy children and finds his results agree very fully with those of Churchill of Chicago, reported in the Archives of Pediatrics for 1898, p. 646. It appears that American (Chicago) and London children excrete a smaller amount of urine than those of Germany, Austria and some other countries.

17. Tuberculosis.—Smith publishes the diet chart of the Manchester Sanatorium and gives particulars of a series of cases treated with various drugs. He calls attention to the fact that the diet is of paramount importance. A meat diet supplies a physiologic want, but it should be employed to suit the patient's case, and especially in those with gastric disorders. With an abundant mixed diet cod-liver oil is not necessary. The object is not to make the patient a flabby mass of fat, but to turn out a solid, robust individual. A gain in weight is not everything. It sometimes occurs without improvement of the pulmonary condition. Here comes in the importance of supervision of the diet and vigilance of the medical attendant.

The Practitioner, London.

October.

- 18 The Diagnosis of Hysteria. Purves Stewart.
- 19 *The Results of Organotherapy in Addison's Disease. Edward W. Adams.

20 Headache. Guthrie Rankin.

21 *On the Frequency of Alimentary Glycosuria in the Children of Diabetic Persons. Arnold Lorand.

22 The Causation of Cancer. Alex. Theodore Brand.

23 *An Inquiry Into the Relations of Leukemia and Tuberculosis W. J. Susmann.

19. Addison's Disease.—Adams concludes that in a certain number of cases of Addison's disease benefit is derived from the exhibition of some form of suprarenal, but it is impossible to determine just what cases these will be beforehand. Disappointment is likely to follow, though less so, he thinks, than in most alternative methods of treatment. The problem seems to be to get a sufficient and continuous dose of the pure active principle unchanged into the blood stream. Intravenous injection is impracticable.

21. Diabetes.—Lorand has experimented with test meals to determine the tendency to alimentary glycosuria in children of diabetics and finds that it is somewhat marked. These cases are often precocious, mature early and have early senile changes. Attention must be paid to the hygiene, the patients should lead a frugal life, avoiding rich foods, especially if meat is taken simultaneously with large quantities of sweet and amylaceous food. They should not follow occupations incurring great mental strain and he would advise against athletics. Slight accidents may produce traumatic diabetes.

23. Leukemia and Tuberculosis.—Susmann finds leukemia of either type rarely complicates tuberculosis, but the lymph type occurs two and a half times more frequently than the spleno-medullary and as a complication it is six times more frequent in the male than the female. Tuberculosis may be latent and obsolete or occur as a terminal infection, or may be latent and lighted up by the leukemia. The last is the most frequent. When the two diseases are combined there is a tendency for the total number of leucocytes to be diminished and the spleen and glands to decrease in size. This is possibly due to the excess of nucleo-albumin and the increased phagocytic power of the blood, both of which occur in the leukemic patient.

Journal of Tropical Medicine, London.

October 1.

24 Notes on Collecting Mosquitoes. Herbert E. Durham.

25 *Malarial Fevers in West Africa. R. Crofts.

26 Municipal Sewerage. (Continued.) F. Smith.

25. Malaria in West Africa.—The peculiarities of West African malaria are described by Crofts, who remarks that remittent fever is the most frequent type. Europeans of mature age are best suited to stand the West African climate; under 26 or over 50 are unsuitable ages to attempt it. The average European on the West African coast thinks little of his diet; he eats too many meat meals daily. The Irish and Scotch are not so likely to do this. Crofts thinks a little alcohol in the evening is better than total abstinence. The average attack appears with pains across the loins, frontal headache and vomiting and soreness in the lower extremities. The backache is as constant as in smallpox. Drugs such as bismuth and opium given for the vomiting only aggravate the condition. The two most valuable diaphoretics he has found are antipyrin and antifebrin, especially the latter. He has not seen any ill effects from it; the dose should be 5 grains. A purgative such as calomel should be given, 5 to 10 gr.; no other can compare with it. On the first examination the patient's urine should be examined for albumin and bile and the lungs to be sure there is no pneumonia. He protests against the use of opium. Arsenic is of incalculable value; it is much better than quinin in these cases. The dose should be at first a large one and gradually diminished; the best form is the liquor arsenicalis. As for quinin, all the good that is in it can be obtained from about 15 gr. daily; there is no good in large doses. A high temperature above 105 is serious, and he advises sponging with cold water for these cases, followed, may be, by a wet pack. Albuminuria is common. The most frequent cause of death is cardiac clot, though this is not generally recognized. The heart's action should be supported, Carbonate of ammonium is given to diminish the fibrin in the blood. The patients must be fed, and if we can not feed by the mouth we must feed by the rectum. Most patients require alcohol early.

Intercolonial Medical Journal of Australia, Melbourne.

August 29.

- 27 Appendicitis from the Physician's Point of View. James Jamieson.
- 28 The Operative Treatment of Quiescent Appendicitis. C. MacLaurin.
- 29 A Clinical Lecture on Some Cases of Suppurative Appendicitis. G. A. Syme.
- 30 Note on an Intradental Splint for Fracture of the Maxilla and of Use in Operations Where Section of the Lower Jaw is Required. R. A. Stirling and E. S. Bowen.
- 31 Notes on Cases of Eye Injuries. James P. Ryan.
- 32 Vascular Remains in Corneal Disease. James W. Barrett and W. F. Orr.
- 33 Case of Perforated Gastric Ulcer; Death Fifteen Days After Operation from Pulmonary Thrombosis. W. Moore.
- 34 Ruptured Extra-uterine Pregnancy; Lacerated Wound Into tion; Recovery. W. Moore.

Presse Médicale, Paris.

- 35 (No. 79.) Les streptocoques intestinaux. Bactériologie Pathogénie. P. Nobécourt.
- 36 *De la valeur de la méthode de Sahli pour l'examen clinique des fonctions de l'estomac. A. Habel and G. Humbert.

36. Sahli's Functional Stomach Test.—Habel and Humbert have given Sahli's "flour-soup" test a thorough trial in their clinical practice at Geneva (the technic was given in THE JOURNAL, xxxviii, p. 1477, 1888). They describe the particulars of 23 cases, and state that their experience has fully confirmed the great value of the test. It is much simpler and easier than any others they know of; it shows the amount of food that passes out of the stomach in a given period, and the amount of gastric juice remaining in the stomach when the stomach tube is applied. It allows the proportion of acid in the gastric juice to be determined by itself, not diluted with fluids from a test meal. A further advantage is that one application of the stomach tube is all that is necessary. The dosage of the fat is sufficiently accurate for all practical purposes.

L'Obstétrique, Paris.

Last indexed XL, page 1614.

- 37 (VIII, No. 3.) *The Kidneys of Eclamptics. P. Bar.—Les reins des éclamptiques.
- 38 Le féticide thérapeutique devant la Société de Médecine Légale en la France. C. Margrier.
- 39 Considérations sur le mécanisme de l'accouchement normal. Demelin.
- 40 (No. 4.) *Kidneys and Liver in Fetus Born of Eclamptic Mother. P. Bar.—Des lésions du foie et des reins chez les fœtus nés de mères éclamptiques.
- 41 Du patronage des nourrissons (nurslings). M. Rivière.
- 42 La loi Roussel et les consultations de nourrissons. G. Mocquot.
- 43 (No. 5.) Early Diagnosis of Pregnancy. E. Bonnaire.—De la valeur de l'exploration du corps de l'utérus dans le diagnostic précoce de la grossesse.
- 44 4 observations de tumeurs fibreuses de l'utérus compliquant la grossesse et l'accouchement. Etude sur le diagnostic. V. Bué.
- 45 Dosage of Breast Milk. M. Perret.—Quantités de lait que doivent prendre au sein de leur mère les nouveau-nés à terme.

37. The Kidneys in Eclampsia.—Bar gives illustrations of the aspect and microscopic findings in a number of kidneys examined from women who had succumbed to eclampsia. Pronounced lesions were found in every one, and, in fact, he can not remember a single instance in his experience in which the kidneys of eclamptic subjects did not show gross pathologic lesions. In 4 of his present series of 24 cases the kidneys were profoundly affected; in 9 the lesions were of moderate and in 8 of slight intensity. In the remaining 3 the organs were not markedly pathologic. The lesions were all of the nature of those observed in toxic nephritis in which the action of some powerful poison rapidly destroys the epithelium of the convoluted tubules, diffusely affecting the rest of the organ, but less severely. Even in the mildest cases the lesions included ectasia of the convoluted tubules, and the capsule contained an albuminous fluid, but the intercanalicular tissue was approximately normal. The liver was affected in most of the cases, but not proportionately to the intensity of the kidney lesions, some of the mildest cases of the latter being accompanied by the severest liver lesions. The general impression derived from his research is that the findings indicate the action of some powerful poison suddenly attacking the kidney or liver, the diffuse lesions induced causing such perturbation in the functions of the organs as to be the cause of grave symptoms. It is possible that the liver is most affected in some cases, the kidneys in others.

40. Kidney and Liver in Fetus of Eclamptic Mothers.—In 80 cases of eclampsia in Bar's experience 37 of the children were stillborn. In 16 the fetus was macerated. In 21 cases the fetus succumbed after the first attack of eclampsia. Out of the 43 infants born alive, 27 died within three days. The fetal mortality was thus 80 per cent. in the 80 cases of eclampsia, and the survivors were all weakly children. The liver and kidneys of 17 of the fetuses were examined and marked congestion noted in all, with degenerative processes of rapid evolution similar to those observed in eclamptic women, but much less intense and less constant. They are apparently secondary, and derived by toxic action from the maternal organism. This view is sustained by their localization, frequency and analogy with those exhibited by the mother, although in neither case are the lesions pathognomonic. Even if the child survives, these vital organs are affected to such an extent as to hinder his normal development for a time at least.

Dermatologische Zeitschrift, Berlin.

Last indexed XL, page 1112.

- 46 (X, No. 2.) Dermatitis follicularis et perifollicularis conglobata. L. Spitzer (Vienna).
- 47 *Ueber multiple spontane Keloid. M. Tschlenow (Moscow).
- 48 Ueber die Eigenschaften des phototherapeutischen Apparates von Prof. Lortet und Dr. Genoud in Lyon. S. L. Bogrow (Moscow).
- 49 Study of an Affection in Hares. T. Mayer.—Ueber sogen. Hasenvenerie.
- 50 Comparison of Iron and Carbon Arc Light. G. Busck (Copenhagen).—Eisenbogenlicht contra konzentriertes Kohlenbogenlicht.
- 51 (No. 3.) Study of the Hair System in Man. F. Pinkus.—Zur Kenntnis des Haarsystems des Menschen.
- 52 Care of Mouth Under Mercurial Treatment and Certain Mouth Affections. J. Müller.—Mundpflege bei Quecksilberkuren und einigen Mundaffectationen.
- 53 Zur Etologie und Anatomie der Erosio portionis vaginalis. H. Vörner.
- 54 (No. 4.) *Syphilis Parasite. M. Schüller (Berlin).—Ueber die protozoenähnlichen Parasiten bei Syphilis.
- 55 Nail Affection. J. Heller.—Ekzema striatum medianum ungulum.
- 56 Syphilidologische Beiträge. Neuhaus (Berlin).
- 57 Iron and Carbon Arc Light. Kromayer (Halle).—Eisenbogenlicht contra concentriertes Kohlenbogenlicht.
- 58 *Ueber Trichohyalin. H. Vörner.

47. Keloid.—Tschlenow reports a case and discusses the literature. He remarks that under the name keloid we understand a special disorder of the skin, which from many points of view recalls a new growth and should be counted as such, of a fibroma type. Keloid may be either primary, corresponding to the designation of the earlier authors as "true" keloid, or secondary or scar keloid. Hypertrophied scar, however, should be distinctly separated from this group. Clinical and histologic studies show that a marked distinction between primary and secondary keloid is not based on facts. Both have the same type of development: histologic alterations or marked increase of the connective tissue with decrease of the elastic tissues along the blood vessels. The cutis is to be regarded as a particular starting point of this growth. Its etiology is obscure. The chief factors seem to be a special, personal, family or racial predisposition, under the influences of which the skin reacts in keloid formations from slight irritation, not, however, to every irritation or in every part. This explains also the remarkable tendency to relapses. As regards the pathology, the vascular system undoubtedly plays a large part, but further investigations are needed. Keloid is, neither a scar nor simple hyperplasia of the connective tissue. It is different in its structure from infectious granuloma and fibroma, but its proper classification is still impossible. The cause for its spontaneous cessation of growth is unknown. Its prognosis is generally not very satisfactory and the treatment is usually a thankless task.

54. Syphilis.—Schüller defends his former announcement of the discovery of a protozoön-like parasite in syphilis, made by him in the *Centralblatt für Bakteriologie*, xxxii, Nos. 5 to 9, 1902. He has investigated new cases and illustrates the results of his histologic and cultural studies.

58. Trichohyaline.—This is the name given by Vörner to a new substance found by him in the hair roots which differs from the former elements there discovered, the eleidin and keratohyaline, in chemical, physical and staining qualities. It differs from hyaline by its greater resistance to acids and al-

kalies, as also in its different staining reaction. It colors yellow with the Van Gieson stain, while hyaline becomes red. It is undoubtedly a product of protoplasm and occurs earlier than eleidin and keratohyaline. It can be observed in the earliest hair structure.

Deutsche Medicinische Wochenschrift, Berlin.

- 59 (XXIX, No. 40.) *Zur Diagnose der Lungen-Tuberkulose. A. Schmidt (Dresden).
 60 *Ueber die Pathogenese der gonorrhoeischen Epididymitis und Behandlung mit Punktion. G. Baermann.
 61 Suture in Operating for Senile Cataract. Bublitz.—Ueber die Naht beim Altersstarschnitt.
 62 Discussion of Feasibility of Farm Colonies and Sanatoria for the Tuberculous on the Madeira Islands. J. Goldschmidt.—Ackerbaukolonien und Sanatorien für Tuberkulose auf Madeira.
 63 Der XXXI deutsche Aerztetag. S. Alexander.

59. Mistakes in Diagnosis of Pulmonary Phthisis.—Schmidt sounds the alarm that we are getting into the habit of diagnosing tuberculosis when there is really no necessity for so doing. Naegeli has shown that the liabilities are that we are all tuberculous—the practitioner has only to decide whether the tuberculous infection is latent or progressing. Infinitely more harm is done, Schmidt thinks, by needlessly frightening persons with the announcement that they have tuberculosis than would result from the overlooking of a few cases that later proved to be actually progressing tuberculosis. The serum and tuberculin tests are more valuable when they are negative, he asserts, than when they are positive. He has frequently encountered persons who have been rendered morally and physically unfit for any occupation by the needless diagnosis of tuberculosis. They go from one sanatorium and resort to another, sacrifice time and money and never are well because their alarm keeps them ill. Physicians are overzealous in diagnosing tuberculosis, and a halt should be called. The progress of the affection in dubious cases will soon solve the question, and still be in time for appropriate treatment. He calls attention to three sources of error in the diagnosis of clinical tuberculosis: First, the physical signs of dullness and retraction of the apex which are caused by an irregularly-shaped shoulder girdle. The second source of error is in hemorrhages from small foci of bronchiectasia, and the third is the pseudo râles and friction sounds made by the edges of the lungs. He describes 5 cases in detail in which tuberculosis had been diagnosed by several physicians on the ground of dullness and apparent retraction of the apex, but careful, repeated examinations during a long period and the negative tuberculin test demonstrated that this diagnosis had been erroneous. In one case the dullness and apparent retraction of the apex were caused by the effects of atrophy of some of the muscles of the pectoral arch; in 2 others by a slight scoliosis of the upper part of the thorax, and in the others by an extra high scapula. The number would be materially larger if he included those cases in which tuberculosis had been presumptively diagnosed. These anomalies of the shoulder girdle are by no means uncommon. The elevation of the scapula may be congenital or the result of rachitis, inflammatory retraction of the levator scapulae, ankylosis of the shoulder, or it may be due to some defect in the trapezius. Small bronchiectatic foci may induce repeated hemoptysis and thus simulate a tuberculous affection. In a case he relates a physician of 35 had suffered from severe hemoptysis recurring once or twice a year since his student days. Although he presented no other evidences of tuberculosis he was regarded as a consumptive by competent authorities and treated accordingly. The circumstance that he had pronounced drumstick finger suggested the possibility of bronchiectasia to Schmidt, and careful examination of the minute quantity of sputum which the patient was in the habit of coughing up once every morning, revealed the presence of minute "Dittrich's plugs." Isolated râles could also be heard in the interscapular space. The case was evidently one of circumscribed bronchiectasia, with possibly also an anthracotic gland with a perforation in the vicinity of one of the main bronchi. Pseudo râles and friction sounds are heard at the margins of the lungs, principally at the lower margin in subjects with scoliosis. When encountered they will be found constant, but they have no pathologic sig-

nificance so far as the lungs are concerned. Repeated examination and the constancy of the sounds always at the same spot and uninfluenced by position, coughing, etc., differentiate them. A young merchant of his acquaintance had been proclaimed to be tuberculous on the basis of these sounds, and for years had spent his days in the vain search for relief from them, living all the time in the shadow of tuberculosis, but not presenting any other signs of the disease. Schmidt examined him year after year, and always noted the same delicate crepitations, as from atelectasia, along the margins of the lungs, but nothing else that could be construed as pathologic. Schmidt assured him that the sounds were accidental, but was unable to convince him that the diagnosis of tuberculosis had been erroneous, and he has not dared to give up his invalid mode of life. Schmidt does not attempt to explain these pseudo râles, although he suggests marginal emphysema as a possible cause. The frequency of the latter, however, is out of proportion to the number of cases in which these sounds are heard. Alterations in the position and mobility of the pleural sinus by changes in the bony skeleton may likewise be suggested as a possible explanation.

60. Treatment of Gonorrheal Epididymitis.—Baermann of Neisser's clinic at Breslau proclaims that every epididymitis which appears during a gonorrheal urethritis, is due to local invasion of gonococci. The latter can always be found in the puncture fluid. In the overwhelming majority of cases of epididymitis an abscess rapidly develops, either from congestion with secondary destruction of the walls of the epididymis or from actual suppuration. In the latter case there is always more or less well-developed hydrocele, which is likewise due to the local invasion of the layers of the tunica vaginalis by the gonococci. In certain circumstances it is possible to find gonococci persisting for years in the relics left of an old epididymitis. Early puncture in epididymitis accompanied by signs of violent inflammation is advisable as a therapeutic measure. This evacuates the abscess before the walls of the epididymis have been injured by it. Puncture is likewise advisable in case of inflammatory hydrocele, as by its evacuation better conditions for circulation and absorption are provided.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed XL, page 1033.

- 64 (LVII, No. 3.) Laws of Growth. E. v. Lange (Munich).—Die Gesetzmässigkeit im Längenwachstum des Menschen.
 65 Congenital Eye Affections. W. Leitner.—Ueber congenitale Krankheiten des Auges.
 66 Grippe und eitrige Meningitis mit dem Befund der Influenza-Bacillus. A. Hecht (Heidelberg).
 67 Review of Scandinavian Pediatric Literature. A. Johanessen.—Uebersicht aus der nordischen pädiatrischen Lit.
 68 (No. 4.) *Anti-fat Treatment of Children. E. Hellesen (Christiania).—Ueber den Stickstoffwechsel bei einem an Adipositas nimia leidenden Kind mit bes. Rücksicht auf Abmagerungskuren.
 69 Zur Kenntnis der Hypertrophia cerebri als Krankheitsbild im Kindesalter. B. Schick (Graz).
 70 Elastin of Infant Intestine. R. Fischl (Prague).—Ueber das Elastin-gewebe des Säuglingsdarmes.
 71 Zur Kenntnis der non-traumatischen Oesophagus-Perforation im Kindesalter. C. Zuppinger (Vienna).
 72 Ueber larvierte Angina diphtheritica und follicularis. Schoen-Laduevsky.

68. Anti-Fat Treatment of Children.—Hellesen gives the results of study of the metabolism of a child affected with *adipositas nimia*, and discusses the subject of anti-fat treatment of children, commenting on the difficulties encountered. Limiting the intake of fats to one-fifth of the "balance ration" seems to be the best method for reducing corpulence. An albumin-fat dietary is more harmful than albumin and carbohydrate diet when the quantities are restricted. His experience indicates that under no circumstances must the anti-fat dietary be kept up for more than a few days at a time or the development of the child will suffer.

Münchener Med. Wochenschrift, Munich.

- 73 (L, No. 39.) *Ueber die Müller'sche Operation bei Spina ventosa. O. Ehrhardt.
 74 *Oculomotor Paralysis. A. Blieschowsky.—Das klinische Bild der assoziierten Blicklähmung und seine Bedeutung für die topische Diagnostik.
 75 *Evacuation of Gallstones by Flushing the Biliary Passages. F. Kuhn (Cassel).—Austreibung von Gallensteinen durch Spülung.
 76 Beitrag zur Quadriceps-Plastik. S. Stlassny.

77 *Combating Venereal Disease. C. Fraenkel.—Die Bekämpfung der Geschlechtskrankheiten. (Commenced in No. 38.)

73. Mueller's Operation for Spina Ventosa.—Mueller operated on a dozen patients by excision of the morbid tissue of the spina ventosa and transplanting into the cavity thus formed a flap of periosteum taken from the neighboring long bone. The functional result years afterward has been excellent. Ehrhardt reports seven such transplantations undertaken on 6 patients. He found the procedure extremely simple, not requiring hospital care, and healing in at least three weeks. A complicating fistula proved no contraindication to operation. The patients were from 18 months to 15 years of age. Nine months have elapsed since the first case was operated on, and all of the children have movable fingers of normal shape and size. The method is not applicable when the joint is involved, but in all other circumstances seems to be by far the best method known to date.

74. Significance of Oculomotor Paralysis for Topical Diagnosis.—Bielschowsky reviews the publications on this subject which have proceeded almost exclusively from internists and neurologists, and gives cuts and a detailed description of a typical case. He mentions that no one to date has realized the importance of the information to be derived from passive movements of the head, turning it to one side with the eyes fixed on some special object. It is important in this and other tests of the movements of the eyes to note the behavior of the second eye. From the symptoms he describes he draws the deduction that the focus causing the disturbance must be to the front of the nucleus of the abducens, and have injured both dorsal longitudinal bundles, but probably only in certain sections. The fibers passing upward in each longitudinal bundle, which are the media of reflex stimulation of the muscles that turn the eye to the side during passive movements of the head, must have been still functionally active. The tract transmitting the impulse from the cortex to the nucleus region must also have been partially intact.

75. Evacuation of Gallstones by Flushing the Biliary Passages.—Kuhn flushes the biliary passages through a tube inserted in the fistula or during an operation, using physiologic salt solution under a pressure of 200 to 1,000 mm. water. It is possible to rinse the biliary passages in this way, obstruction to the flow indicating some obstacle in the way. Medicinal treatment can be applied directly to the lesion and the permeability of the passages can be ensured. He has never noted any inconveniences from this procedure, even when considerable force was applied, which caused a condition resembling that of a mild gallstone colic, fever, pains and slight icterus afterward. He commences with a pressure of 200 mm. of the water column and gradually increases to 500 mm. He has established certain formulæ for the behavior of the current, showing that it is possible by the flow of the water to determine whether there is an obstacle to the flow, whether the passages are normally permeable or whether they have been dilated by the frequent passage of stones. The washing away of gallstones by the mechanical force of the current is a valuable adjuvant to operation when there are innumerable small ones, but, of course, is not feasible with large impacted stones. In case of numerous small calculi he thinks it is impossible to remove them all during one operation unless the biliary passages are flushed again and again. In one case after every stone had been supposedly removed during the intervention which included ablation of the gall bladder, 40 small stones were brought away by rinsing out the upper biliary passages. Gallstone colic is merely the expression of increased pressure in the biliary passages caused by some obstruction to the escape of the biliary secretions. By inserting a tube and flushing these passages we create artificially the same conditions as in gallstone colic, distending the passages and forcing the contents along, but with the advantage that the physician is master of the situation and can control the condition, increasing the pressure at will and arresting the "attack" at any moment.

77. To Combat Venereal Disease.—Fraenkel argues at length to prove the superior advantages over the present systems of "controlled streets" for prostitution, that is, certain limited

quarters set apart for prostitutes to live in, abolishing the brothels. These preventive regulations to be supplemented by personal prophylaxis. He remarks that the conditions at present in Berlin are more unbearable than in any other large European city, and that a respectable woman, even accompanied by gentlemen, can scarcely venture on the streets after dark without danger of seeing or hearing the most offensive things. All this is done away with in the cities that have introduced a system of "controlled streets."

Wiener klinische Wochenschrift.

Last indexed page 757.

- 78 (XVI, No. 33.) Physikalischer Untersuchung der Gastelner Thermen. C. v. Than (Budapest).
- 79 *Tetanie und Autointoxikation. H. Loebl.
- 80 Polemic on Syphilis Bacillus. Joseph, Plorkowski and Pfeiffer.
- 81 (No. 34.) *Pains and Herpes in Pubic Region in Cases of Flat Foot. S. Ehrmann.—Ueber Herpes progentialis und Schmerzen in der Regio publica bei Plattfuss.
- 82 *Etiology of Baldness. M. Schein.—Zur Frage der Entstehung der Glatze.
- 83 *Ueber den Diabetes in der Chirurgie. O. O. Fellner.
- 84 (No. 35.) Ueber die agglutinierende Eigenschaft der Galle und des Serums beim Iktus. R. Königstein.
- 85 Ueber Antihemolysine normaler Organe. R. Kraus and B. Lipschutz.
- 86 Zur Frage der Variabilität der Diphtherie-Bazillen. B. Schlick, and H. Ersetz.
- 87 (No. 36.) *Zur Pathologie der Tuberkulose der Gaumen-Tonsillen. E. Glas.
- 88 Tuberculosis of Thyroid Gland. D. Pupovac.—Zur Kenntnis der Tuberkulose der Schilddrüse.
- 89 Defect in Trapezus as Cause of Elevated Scapula. H. Neumann.—Zur Frage einer etiologischen Bedeutung des Cucullarisdefektes für den Schulterblatthochstand.
- 90 (No. 37.) *Der osmotische Druck und der Organismus. J. Kiss.
- 91 *Elimination of Bacteria. W. Noetzel.—Experimentelle Studien zur Frage Bakterien aus dem Körper.
- 92 (No. 38.) f Acoustic Speech Center. A. Pick von den Hemmungsfunktionen des Centrums im linken Schläfelappen.
- 93 Zur path. Histologie der Plexus chorioidei. C. Tsiminakis.
- 94 Paralysis of Larynx. A. Schüller.—Zur Kasuistik der Kehlkopflähmung.
- 95 Bilateral Deafness with Bilateral Cramps in Facialis Region. von Fragstein.—Ueber doppelseitige Gehörstörungen kombiniert mit bilateralem Krämpfe im Gebiete des Facialis nebst Bemerkungen über das Versorgungsgebiet der letzteren.

79. Tetany and Autointoxication.—Loebl states that one or more of the cardinal symptoms of tetany accompany typical cases of autointoxication. In two-thirds of the cases of autointoxication in his experience he noted spasmodic contraction of some of the muscles, while examination of the urine in case of manifest tetany invariably disclosed evidences of disturbed metabolism, transient acetoneuria, albuminuria and casts in the urine. Permanent injury of the kidney was not encountered in any case. He defines tetany, therefore, as an affection due to autointoxication affecting particularly the peripheral neuromuscular apparatus.

81. Disturbances in Pubic Region in Case of Flat-Foot.—Ehrmann gives several cuts to illustrate his contention that the altered static conditions in flat-foot cause disturbances in the pelvis with resulting injury of the pudendus communis, liable to be manifested by herpes and pains in the pubic region.

82. Etiology of Baldness.—Schein suggests as a possible explanation for baldness the excessive stretching of the skin of the scalp as the galea and epicranium develop as habitual in men advancing in years. This stretching of the skin entails nutritional disturbances rendering the hairs less resistant. Pohl suggested years ago that this stretching might be counteracted by local application of diluted acids and alkalies. He did not appreciate, however, the importance of the development of the epicranium and galea as the cause of the stretching.

83. Surgery and Diabetes.—Fellner operated on a woman of 40 on account of bilateral pyosalpinx. Symptoms of progressive diabetes had been noticed for fifteen years, with four abortions during this time after two normal deliveries. He is inclined to believe that the diabetes had contributed to these abortions, and suggests that diabetes may be a factor in septic affections of the internal genitalia more often than is generally supposed. After the salpingectomy all symptoms of the diabetes vanished, but the patient succumbed after a few months to extension of the septic peritonitis. He discusses whether it is possible that

the iodoform used after the operation may have contributed to the cure of the diabetic symptoms, or whether it was due to evacuation of the septic foci or to the progressive cachexia. He accepts the latter surmise as most probable, and advises that the possibility of advancing cachexia should be borne in mind when diabetic symptoms vanish after long persistence.

87. **Tuberculosis of Tonsils.**—Among the 3 cases described by Glas were 2 of primary tuberculosis of the tonsils and one of miliary tuberculosis of the tonsils with consecutive general infection by the lymph and blood routes. In all these cases the tonsil was hypertrophied. In one case with a unilateral tonsillar affection, the corresponding vocal cord was involved. Tuberculosis in the tonsils seems to assume the form of a chronic, non-ulcerating sclerosis or to appear as miliary nodules.

90. **Osmotic Pressure and the Organism.**—Kiss emphasizes that the study of osmosis under physical conditions is not applicable to the osmosis under physiologic conditions. He points out that osmotic interchanges occur much more rapidly in the latter than in the former. It is not possible to explain the vital functions on the basis of osmosis, and it is more than probable that as the living cell works with molecules and ions, it utilizes the osmotic forces, guides and transforms them for its purposes in a way beyond the ken of physical chemistry.

91. **Elimination of Bacteria from Organism.**—Noetzel's experiments confirmed the results of others to the effect that in health there is no elimination of bacteria through the kidneys or glands. The bacterial toxins, however, are thus eliminated.

Medizinskoe Obozryenie, Moscow.

Last indexed page 997.

- 96 (LIX, No. 6.) *Surgical Treatment of Wandering Spleen. A. N. Sakharoff.—K chirurgii bluzhdayushchego slezhenki
- 97 Removal of Prolapsed Spleen After Abdominal Trauma. P. Zhegalkin.—Shtuchal udaleniya vypravshis' slezhenki pri ranenii zhevota.
- 98 Case of Traumatic Stenosis of Small Intestine. A. Kablukoff.—K kazustik traum. stenoza tonkikh kishk.
- 99 *Pathogenesis of Pseudo-chylous Ascites. V. Polyakoff.—K patogenezu psevdokhilyznykh ascitov.
- 100 *Gastric Digestion in Chronic Enteritis. V. P. Bazhenoff.—Zheludochnoe pishchevarenie pri khronich. stom. enteritye.
- 101 (No. 7.) Congenital Dilatation of Colon. V. P. Zhukovsky.—O vrozhdennom rasshirenii tolstykh kishk s hypertrofiy vseg kishetchnika, stenozom duodeni i vnutrennei gryzhei.
- 102 *Treatment of Congenital Phimosi. V. M. Rozhansky.—K lyetcheniu vrozhdannago phimozha.
- 103 *Epidemic Rubeola. N. N. Pismenny.—Epidemicheskaya krasnukha i eya raznoobraznost.
- 104 *Quinin Subcutaneously in Malaria. P. M. Nevyadomsky.—O lyetchenii malarii podkozhnyimi vpryskivaniyami khinina.
- 105 Migration of Lymphocytes. G. V. Vlasoff and E. K. Seppa.—K voprosu o dvizhenii i emigratsii limfotsitov krovi.
- 106 (No. 8.) *Ob apoplekticheskikh bulbarnykh paralytchakh. V. A. Muratoff.
- 107 *Case of Bulbar Paralysis with Amyotrophic Lateral Sclerosis. P. P. Tutyshekin.
- 108 *Influence of Alkalies on Experimental Infections. D. K. Auerbach.—O vliyanii nyekotorykh shtchelotchei na tetchenie opredelyennykh infektsionnykh boleznei, exp. vyzyvaemykh.
- 109 Modification of Circulation in Case of Fat and Parenchyma Cell Embolism. M. N. Nikiforoff.—Ob izmeneniyakh krovoobrashteniya pri zhirovoy i parenkhymkiyetotchnoi embolii.
- 110 *Initial Changes in Pulmonary Phthisis. A. Abrikosoff.—K voprosu o sushtchnosti samykh natchalnykh izmenenii pri legotchnoi tchakhotke.

96. **Surgery of Wandering Spleen.**—Sakharoff thinks that if the spleen is more than two or three times its original size, it had better be removed instead of trying to merely fasten it in normal position. He describes a case in which he removed a malarial spleen from a woman of 28, a multipara. The spleen after its removal weighed 960 gm. The hemoglobin gradually increased from 60 per cent. after two weeks to 78 per cent. three weeks later, and the proportion of reds to whites from 115 to 1 at the first examination to 180 to 1 at the second. Her health has continued good to date. He mentions that her appetite became exorbitant for a time after the splenectomy, which phenomenon has been noted by other surgeons in such cases. Typical attacks of malaria also developed eleven days after the operation, but subsided under quinin. This has also been observed by others.

99. **Pseudo-Chylous Ascites.**—Polyakoff describes a case in which the chylous appearance of the ascitic fluid was due to

the products of decay of the albuminoids and nuclein, not to admixture of fat.

100. **Gastric Digestion in Chronic Intestinal Inflammation.**—Bazhenoff relates the particulars of 5 cases of chronic enteritis in which special study was made of the gastric digestion. The findings indicate that the subjective sensations of such patients are mainly due to atrophic catarrh of the stomach. It is highly probable that this gastric affection is merely a propagation of the inflammatory process in the intestines. The subjective sensations do not always parallel the anatomic conditions. There may be no symptoms of dyspepsia and yet the wall of the stomach may be completely atrophied. When the gastritis develops secondarily, the prognosis of the intestinal affection may be formulated on the basis of the gastric disturbances, the severer the latter the less chances for recovery of the former. Examination of the stomach digestive functions is also necessary as a guide to diet.

102. **Treatment of Congenital Phimosi.**—Rozhansky recommends local injection of a 2 per cent. warm solution of boric acid twice a day, injecting enough of the fluid to dilate the preputial sac and thus mechanically restore conditions to normal while keeping the parts disinfected.

103. **Study of Epidemic Rubeola.**—Pismenny had occasion to observe an epidemic of 21 cases of rubeola and noticed that it developed in five different ways. In some subjects the eruption was typical, in others it resembled that of scarlet fever; in 8 cases the eruption was *sui generis*, the single patches much larger than usual, deeper colored, isolated, the intervening skin being normal. In 4 the exanthem resembled that of scarlet fever, but the catarrh was that of measles, and in 2 there was no catarrh. He often noticed that contagion from a subject with one form frequently induced the disease in another form. He therefore defines rubeola as an independent contagious disease which runs a course similar to that of mild measles, but occasionally resembles more that of an abortive scarlet fever, and most frequently presents a combination of these two forms. The incubation in his experience was about sixteen days.

104. **Treatment of Malaria with Subcutaneous Injections of Quinin.**—Nevyadomsky advocates the subcutaneous use of quinin when rapid action is desired. He has found this mode of administration peculiarly advantageous for children. In ten to fifteen minutes after the injection of .8 gm. quinin the ears begin to hum. He prefers for these injections a mixture of 10 gm. quinin hydrochlorate and .1 gm. morphin hydrochlorate to 20 gm. distilled water. The deltoid and pectoralis major regions are the best points for the injections, which should be made in the subcutaneous cellular tissue. His experience with thousands of these injections has been extremely favorable, but it has demonstrated that to be effectual the quinin must be injected at the close of the chill or at the commencement of the fever. This rapidly aborts the attack, while injections later, during the sweat or intermissions, do not influence future attacks. He has found that even long-established cases of malaria yielded temporarily or permanently to two or three injections, the cure completed by removal from the malarial region if possible.

106 and 107. **Bulbar Paralysis.**—Muratoff describes in detail a number of cases of what he calls apoplectic bulbar paralysis, with the anatomic findings. Tutyshekin also gives the details of a case of progressive bulbar paralysis with amyotrophic lateral sclerosis.

108. **Influence of Alkalies on Experimental Infections.**—Auerbach was impressed by the fact observed that an alkaline culture medium which was eminently favorable to the growth of bacterial cultures became bactericidal when heated to 108 F. The bacteria died when the temperature was raised to this point. Observation of this phenomenon suggested to him that the high temperature in fever may be a beneficent phenomenon, rendering the alkaline blood more bactericidal. He instituted experiments on animals to establish the correctness of this view, and announces that he found that the blood became less and less alkaline, the more intense the infection.

Endeavoring to restore the alkalinity of the organic fluids by injection of alkalis he found that the animals were able to withstand the inroads of the experimental infection much better than the controls. He concludes from his research that the fever in infections is an important aid in the defensive processes as it confers increased bactericidal power on the alkaline blood and probably also enhances the bactericidal power of other antibodies in the organism.

110. Initial Lesions in Tuberculosis of Lungs.—Abrikosoff examined 52 cadavers with circumscribed pulmonary tuberculous lesions and in 8 found the initial modifications caused by the infection. He reproduced them in rabbits by intravenous injection of cultures as well as by direct injection into the bronchi. His research also has established that the tubercle bacilli can penetrate from the bronchial glands into the bronchi even in the absence of lesions in the bronchial walls.

Hospitalstidende, Copenhagen.

Last indexed page 581.

- 111 (XLVI, No. 26.) *Urethral-Injektionernes Teknik. En ny Gonorresprøjte. C. Engelbreth.
- 112 (No. 27.) *Et Tilfælde af Adipositas dolorosa hos en Dreng. T. S. Gudjohnsen.
- 113 (No. 28.) *Trials of Organ Therapy in Deficient Mammary Secretion. H. Prip.—Forsøg med Organoterapi ved Hypogalakti.
- 114 4 Tilfælde af Hens. V. Harslof.
- 115 (No. 29.) *Om Xerophthalmi hos Smaa børn (in infants). E. Jensen.
- 116 (No. 31.) *Introduction to Discussion on Puerperal Fever. J. Kaarsberg.—Om Behandling af Barselsefeber.
- 117 Et Tilfælde af Atresia intestinalis. C. E. Eldall.
- 118 (No. 32.) *Introduction to Discussion at Madrid Congress on Causes of Deaf-Mutism. E. Schmiegelow.—Dövstumhedens Aarsager.
- 119 Dipsomania. Pseudodipsomania. P. D. Koch.
- 120 (No. 33.) *Behandling af Lupus vulgaris ved Frysning med Chlor-ethyl. C. T. Hansen.
- 121 (No. 34.) Hospitalsbehandling af Lungetuberkulose. J. Vejle.

111. Improved Technic of Urethral Injections.—Engelbreth's article was reviewed in THE JOURNAL, page 890, abstracts 109 and 114.

112. Adipositas Dolorosa in a Boy.—Gudjohnsen's case was distinguished by the fact that the patient was a young man, and that the symmetrical lipomata were some of them painful and others not. The affection had commenced in childhood and none of the typical symptoms was lacking. In discussing the relations of this affection to myxedema he mentions the entire absence of the lunula unguis in his experience in both affections. He had successfully treated another case of painful lipomatosis by means of six weeks of massage and then two weeks of thyroid treatment, which banished the pains completely. In the present case the fat deposits were so large that the breast measure was 142 cm., almost 52 inches. When the weather was hot the patient did not suffer from pains or hyperesthesia, and consequently felt better in the summer. He was intelligent and slept well, but as his weight was constantly increasing he pleaded for thyroid treatment, which was accordingly instituted. He took two pills a day of 2 cg. of thyroïdin with a milk-vegetable diet. After taking fourteen pills symptoms of thyroïdin intoxication developed and the patient died eleven days after commencing this treatment. The writer reviews 21 articles that have been published on the subject, including a number by American as well as European authors, besides those of Dercum.

113. Udder Extract in Treatment of Deficient Mammary Secretion.—Prip describes 5 cases in which he was able to promote the breast secretion and procure ample nourishment for the child by having the mothers eat cows' udders thoroughly cooked in an appetizing manner. He now makes a soluble powder from the glycerin extract of udders which he proposes to use in future; a single udder, weighing about 4 pounds, makes 13 gm. of the powder. He thinks there is a promising future for this form of organotherapy.

115. Xerophthalmia in Infants.—Jensen thinks that a more correct name for this condition would be *ophthalmia ex inanitione*, and that prophylaxis consists in more rational feeding. The prognosis depends on the time when treatment is instituted, and treatment should be dietetic. Local treatment plays but a subordinate rôle.

116. Puerperal Fever.—Kaarsberg advocates banishing the curette and using the fingers for removal of the retained after-birth, etc. He thinks that with appropriate local treatment, applied early, the number of cases of puerperal fever will be materially reduced. He is convinced that the use of the curette instead of the fingers is responsible for many mishaps. In one instance he relates, a septic polyp filling the entire corpus was found postmortem after the uterus had been supposedly thoroughly evacuated by the curette in skilled hands.

120. Ethyl Chlorid Refrigeration Treatment of Lupus.—Hansen has treated 13 patients with lupus vulgaris by refrigeration with ethyl chlorid. In 8 the affection had commenced within 5 years and in the others had lasted 5 to 9 years and more. The results were a complete cure in 2; apparent cure in 2, and gradual improvement in 2, with improvement but recurrence later in 4. To decide the merits of this method of treating lupus (mentioned in THE JOURNAL, page 584) he enquired of Finsen if any lupus subjects previously treated by this means had applied for treatment later to him. He found a record of 62. In 36 of these the refrigeration treatment had been briefly tried and abandoned, as no effect had been apparent. In the remaining 36 it had been energetically applied for three to eighteen months. In only 4 of this number had any actual gain been realized, and it was dubious in 2 of these. In 11 per cent. the treatment had been entirely ineffectual and in 78 per cent. the results had been actually unfavorable. The injurious action was the more marked the lesser the extent of the lesions and the duration of the affection. Hansen warns, therefore, that this treatment must be applied with great caution, as it is liable to do ultimately more harm than good.

Hygiea, Stockholm.

Last indexed page 528.

- 122 (LXV, No. 8.) Disposition of Sewage at Berlin. K. Wahlstedt.—Studier öfver renandet af kloakvatten.
- 123 Alkoholismen bland arbets-klassen i Stockholm. C. T. Scholander.
- 124 *The Gastric Juice in the Presence of Tapeworm. G. Törnell.—Om magsaftens beskaffenhet vid nagra fall af bandmask.
- 125 *Om prognosen vid retinitis albuminurica gravidarum. G. Ahlström.
- 126 Artificial Feeding of Weakly Children. K. O. af Klercker.—Principer för artificiell uppfoäding af späda barn.
- 127 (No. 9.) *Typhoid Infection of Gall Bladder. I. Jundell.—Ett bidrag till kännedomen om den tyfösa infektionen i gallblasan.
- 128 Fall af perineal prostatektomi. G. Bäärnhielm.
- 129 Nagra ord om Ureter-Kateteriseringen och des praktiska betydelse för diagnosen af kirurgiska njursjukdomar. N. Hellström.
- 130 Om balantidium coli och dess betydelse vid kroniska diarræer. N. Akesson. One case.

124. Gastric Juice in Tapeworm Cases.—In 12 out of the 17 cases examined there was no free hydrochloric acid to be found in the stomach and in 5 the acid reaction was very weak. No lactic acid was found, and it was noticed that the stomach emptied itself unusually promptly. In 24 cases of tapeworm in which the gastric juice had been examined, reported by Schaumann and others, free hydrochloric acid was entirely absent in 17. This brings the total proportion to 29 out of 41 cases, that is, 71 per cent. of the entire number of cases in which the gastric juice was examined in persons harboring tapeworms.

125. Prognosis of Retinitis Albuminurica Gravidarum.—Ahlstrom describes in detail 7 cases of this affection. In one there were severe symptoms of retinitis in both eyes with detachment of the retina in one eye. A few days later spontaneous abortion occurred at the seventh month, followed by complete restoration of vision. In 2 cases of retinitis vision was much improved after premature delivery the seventh to eighth month. In another patient severe symptoms of retinitis appeared at the second or third month. After premature delivery at the eighth month there was marked atrophy of the optic nerve with almost complete loss of sight. In still another the retinitic symptoms had been of moderate intensity, but vision had been impaired after the sixth month. The pregnancy was terminated by normal delivery. The optic nerve is completely atrophied with amaurosis in both eyes. These cases show that delivery soon after the appearance of the first symptoms of retinitis may be followed by restitution,

while delay may be fatal for vision. The symptoms most important for the prognosis are hemorrhage into the retina and the reflex anomalies in the arteries described by Silex. Whenever one or both of these symptoms are noted in the early stages of a pregnancy it must be interrupted at once, but when not observed until a late stage, expectant treatment is justifiable until there is a prospect of a viable child from a premature delivery. If the patient can not be kept under constant surveillance delivery must be immediate, as also when severe symptoms develop. Further pregnancies must be prevented in women who have once exhibited symptoms of the affection. He describes the particulars of all his cases, including one in which the patient succumbed to eclampsia soon after the symptoms of retinitis had been observed. Another case was lost sight of.

127. Typhoid Infection of Gall Bladder.—Jundell gives a careful review of what has been published on this subject, and describes a case personally observed. The patient was a woman of 31, who stated that she had had typhoid fever at the age of 16. She occupied a room with a person who was found to have typhoid, and, herself, exhibited symptoms that suggested typhoid infection on which those of cholecystitis were soon superposed. Operative intervention became necessary toward the end of the fourth week of the typhoid infection and a stone of cholesterin about the size of a hazel nut was found in the cystic duct and typhoid bacilli were cultivated from the gall-bladder secretions. The stone could not have developed in consequence of typhoid infection of the gall bladder, as such a stone is of slow, gradual formation. The stone had probably been pre-existent and had been the predisposing cause for the typhoid infection of the gall bladder.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICE OF MEDICINE. A Text-book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Third Edition, Thoroughly Revised and in Parts Rewritten. With 134 Illustrations, Including Colored Plates. Cloth. Pp. 1,240. Price, \$5.50. Philadelphia: P. Blakiston's Son & Co. 1903.

MANUAL OF PRACTICAL ANATOMY. By D. J. Cunningham, M.D. Edin. et Dubl., D.Sc., LL.D., D.C.L. Oxon., F.R.S., Professor of Anatomy in the University of Edinburgh. Volume I: Upper Limb, Lower Limb, Abdomen. Volume II: Thorax, Head and Neck. Third Edition. Illustrated. Cloth. Pp. 605 and 607 respectively. Price, \$5.00. Philadelphia: J. B. Lippincott Company. 1903.

THE DECENNIAL PUBLICATIONS. The Structure of the Glands of Brunner. By Robert Russell Bensley, Assistant Professor of Anatomy. Printed from Volume X. Paper. Price, \$1.00. Chicago: University of Chicago Press. 1903.

THE MEDICAL ANNALS OF MARYLAND, 1799-1899. Prepared for the Centennial of the Medical and Chirurgical Faculty. By Eugene Fauntleroy Cordell, M.D. Cloth. Pp. 888. Baltimore: Williams & Wilkins Co. 1903.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the One Hundred and Twelfth Anniversary. Held at Concord, May 21 and 22, 1903. Cloth. Pp. 256. Concord, N. H.: Ira C. Evans Co. 1903.

REPORT OF THE SURGEON-GENERAL OF THE ARMY TO THE SECRETARY OF WAR. For the Fiscal Year Ending June 30, 1903. Paper. Pp. 156. Washington: Government Printing Office. 1903.

New Patents.

Patents relating to medical devices, etc., September 15 to 29:

- 738887. Ophthalmoscope. Henry L. De Zeng, Philadelphia.
- 738897. Hydro-electrotherapeutic apparatus. Daniel C. Fisher, Boston.
- 738995. Orthopedic corset. Franz Haas, Prague, Austria-Hungary.
- 739083. Massage instrument. John W. Hyatt, Newark, N. J.
- 739182. Binocular microscope. Frederic E. Ives, Philadelphia.
- 739098. Combined head gear and ear trumpet. Thomas W. Messinger, Quorn, South Australia.
- 739200. Splint. John R. Moore, Ironwood, Mich.
- 738842. Truss. Solomon H. Phillis, Pana, Ill.
- 739267. Machine for making bandages. Frederick L. Pohlmann, St. Louis.
- 738848. Atomizing device. Walter Sams, Chicago.
- 738960. Clinical thermometer shield. Harry Vaughan and J. W. Arrowsmith, Morristown, N. J.
- 739471. Tray support and closet for physician's tables. William D. Allison, Indianapolis.

- 739207. Disinfecting device. William H. Dayton, Cleveland.
- 739070. Vision testing apparatus. Robert K. Grove, Buffalo.
- 739419. Scarifier tongs. James M. Hyde, San Francisco.
- 739317. Disinfectant block. Clarence C. Jenkins, Brooklyn.
- 739336. Invalid bed. William McLennan, Ogdensburg, N. Y.
- 739844. Means for promoting the growth of hair. Frederick W. Evans, Columbia, Tenn.
- 740002. Collapsible stretcher. Kaspar Freuler, Zurich, Switzerland.
- 740152. Serum container and injector. Thomas J. Lynch, Marietta, Pa.
- 739941. Manufacturing disinfectants. Carl Spengler, Davos-Platz, Switzerland.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week of Oct. 17, 1903:

Asst.-Surgeon C. H. DeLancy, detached from the *Hancock* and ordered to the *Petrel*.

Asst.-Surgeon R. K. McClanahan, detached from treatment at the Naval Hospital, Mare Island, Cal., ordered home, with three months' sick leave.

Pharmacist S. W. Douglass, detached from the Navy Yard, Portsmouth, N. H., and ordered to the Naval Magazine, Iona Island, N. Y.

Surgeon W. F. Arnold, detached from treatment at Naval Hospital, Mare Island, ordered home, with three months' sick leave.

Medical Inspector W. R. DuRose, commissioned medical inspector, with the rank of commander, from June 20, 1903.

P. A. Surgeon C. H. DeLancy, commissioned passed assistant surgeon, with rank of Lieutenant, from June 7, 1903.

P. A. Surgeon D. H. Morgan, when discharged from Naval Hospital, Mare Island, granted sick leave for three months.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 16, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Oct. 4-10, 4 cases.

California: Los Angeles, Sept. 27-Oct. 3, 6 cases; San Francisco, Sept. 28-Oct. 4, 1 case.

Illinois: Chicago, Oct. 4-10, 3 cases; Danville, Oct. 4-10, 2 cases.

Maryland: Baltimore, Oct. 4-10, 1 death.

Michigan: Detroit, Oct. 4-10, 1 case.

New York: New York City, Oct. 4-10, 4 cases; Niagara Falls, Oct. 4-10, 2 cases.

Ohio: Cincinnati, Oct. 3-9, 1 case.

Pennsylvania: Altoona, Oct. 4-10, 1 case; Carbondale, Oct. 8-14, 2 cases; Philadelphia, Oct. 4-10, 11 cases, 3 deaths.

Tennessee: Memphis, Oct. 4-10, 2 cases.

Texas: San Antonio, Sept. 1-30, 12 cases, 1 death.

Utah: Salt Lake City, Sept. 27-Oct. 10, 8 cases.

Wisconsin: Milwaukee, Oct. 4-10, 7 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 3 cases, 1 death.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Sept. 20-26, 4 cases.

France: Paris, Sept. 20-26, 1 death.

Great Britain: Bradford, Sept. 20-26, 8 cases; Newcastle-on-Tyne, Sept. 20-26, 5 cases.

Italy: Catania, Sept. 25-Oct. 1, 1 death.

Russia: Moscow, Sept. 13-19, 1 case, 1 death; Odessa, Sept. 20-26, 1 case; St. Petersburg, Sept. 13-19, 42 cases.

Spain: Barcelona, Sept. 13-26, 4 cases.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Oct. 7-15, 180 cases, 10 deaths; Minera, Oct. 3-12, 0 cases.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Sept. 25-Oct. 1, 2 cases, 1 death.

Mexico: Linares, Sept. 6-26, 446 cases, 202 deaths; Merida, Sept. 6-26, 18 cases, 4 deaths; Nuevo Laredo, Oct. 5-13, 18 cases, 2 deaths; Quintana Roo, Sept. 20-26, 1 case, 1 death; Tampico, Sept. 1-10, 3, 5 deaths; Tehuantepec, Sept. 6-26, 6 deaths; Salina Cruz, Sept. 6-26, 4 cases, 2 deaths; Valladolid, Sept. 13-26, 1 case; Vera Cruz, Sept. 27-Oct. 3, 45 cases, 9 deaths.

Venezuela: Caracas, Sept. 15, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 19 cases, 19 deaths; provinces, Aug. 22-29, 1,593 cases, 1,262 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 22-29, 9 cases.

India: Calcutta, Sept. 6-12, 4 deaths; Madras, Sept. 5-11, 2 deaths.

Turkey: Syria, Sept. 1-14, 473 cases, 317 deaths.

Straits Settlements: Singapore, Aug. 23-29, 7 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 2 cases, 1 death.

PLAGUE—FOREIGN.

Egypt: Alexandria, Sept. 5-11, 10 cases, 5 deaths; Damietta, Sept. 5-11, 1 case, 1 death.

France: Marseilles, to Sept. 15, 9 cases, 1 death.

India: Bombay, Sept. 2-15, 142 deaths; Calcutta, Sept. 6-12, 13 deaths.

Japan: Yokohama, Aug. 22-Sept. 12, 4 cases, 3 deaths.

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No. 19.

Original Articles.

LEPROSY IN THE HAWAIIAN ISLANDS.*

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Professor of Clinical Medicine at the Philadelphia
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Polyclinic Hospital.
PHILADELPHIA.

Leprosy has existed in all the islands of Hawaii for many years and was first officially recognized in 1840, and there is general belief that it was imparted from China. As the disease spread rapidly, a board of health was organized in December, 1850, with power to insist on segregation of all persons suffering from this affection, in consequence of which act the malady is gradually disappearing. All leprosy suspects are sent to Kalihi, a receiving hospital near Honolulu, where they are examined by a medical board and all lepers are transferred to Molokai.

Despite the earnest efforts of the board of health, an unknown number of lepers exist in the different islands of Hawaii, which number, however, is steadily decreasing, and is now smaller than at any time in the past. Many of the suspects present conditions rendering diagnosis extremely difficult. This is especially true in certain of the early cases complicated by disease of the skin, such as psoriasis, chloasma, scabies and erythema. Reliance is placed not only on the characteristic changes that are observed in the skin, mucous membrane and nerves, but special importance is attached to the discovery of the bacillus of lepra in discharges from the skin or mucous membrane and also in small portions of excised skin. The bacilli are discovered, usually with great ease, in the skin from the external auricle when this portion of the body is invaded. The recent observations of Boston¹ would suggest the advisability of more frequent and thorough examinations of the blood for the lepra bacillus in suspected cases.

Dr. Jonathan T. McDonald² of Honolulu summarizes the diagnostic signs of leprosy in Hawaii as follows:

1. The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriologic demonstration of the disease.
2. Of clinical symptoms, maculae, chiefly leucodermic spots, are found in 89 per cent. of all cases.
3. The lepra nodule found in 74 per cent. is the one chief distinguishing lesion of skin leprosy.
4. Thinning or complete loss of eyebrows and lashes is present in 63 per cent.

* Read, with lantern slide illustrations, before the American Climatological Association at Washington.

1. "Lepra Bacilli in the Circulating Blood," Medical Bulletin, vol. xxv, 2, February, 1903.

2. "A Diagnostic Examination of 150 Cases of Leprosy," THE JOURNAL A. M. A., June 6, 1903.

5. Atrophic changes in hands and forearms with retraction and contraction of fingers and enlarged ulnar nerve in 32 per cent., a leading feature of nerve leprosy.

6. The plantar ulcer found in 26 per cent., usually on the ball of the foot.

7. Absorption of phalanges in 16 per cent. with occasional spontaneous amputation.

8. Elephantiasis of hands and feet in 16 per cent.

9. Facial paralysis in 11 per cent.

10. The entire body should be carefully tested for anesthetic areas.

11. Several of the above symptoms can be found in some slight degree at least in every leprosy subject.

The Hawaiian possesses a peculiar susceptibility to leprosy. The number of whites that are afflicted are few, and, strangely enough, but few Chinese have been affected with the disease. The census at Molokai from 1866 to 1885 shows 2,997 Hawaiians, 37 mixed Hawaiians, 16 whites, 22 Chinese and 4 other nationalities. It is somewhat difficult to accurately determine the result of segregation by a study of the statistics of the past 37 years because of the great variation in the population in different years, and the extraordinary influx of Chinese and Japanese coolies; further, no accurate census existed as to the number of lepers in the islands in 1865, when segregation was first introduced, and in like manner, despite the earnest efforts of those in authority, the statistics of to-day are only approximate, as many lepers are concealed by relatives or friends so as to avoid being sent to Molokai. The number of commitments during the past ten years shows a gradual decrease. During the year 1900 the number of commitments was 85, whereas in 1891 there were³ 132. It is the belief of those who have to do with leprosy in Hawaii that segregation has reduced the number of lepers on the island.

I desire to express my thanks to the president of the board of health at Honolulu and to Dr. L. E. Cofer of the U. S. Public Health and Marine-Hospital Service through whose kindness I was permitted to visit the leper settlement Sept. 4, 1902.

The island of Molokai is southeast of Oahu and northeast of Maui. The surface is mountainous; its length is 35 miles and its area 270 square miles. A small peninsula, projecting into the ocean from about the center of the northern coast of the island, was set aside for the lepers by King Kamehameha in 1865 and has an area of 8 square miles. The breadth at the base of the peninsula, where it joins the cliff, is $2\frac{3}{4}$ miles, at the center $2\frac{1}{2}$ miles, and it measures one mile in length. It is shut off from the remainder of the island by a bold rugged mountain range, extending from the east to the west, having an altitude of from two to three thousand

3. Public Health Report, U. S. Marine-Hospital Service, Oct. 11, 1901.

feet. With the exception of a rough steep trail which is almost impassable, no land communication is possible between the leper settlement and the rest of the island. Communication with the outside world is maintained by a small steamboat, the *Lahua*, which during pleasant

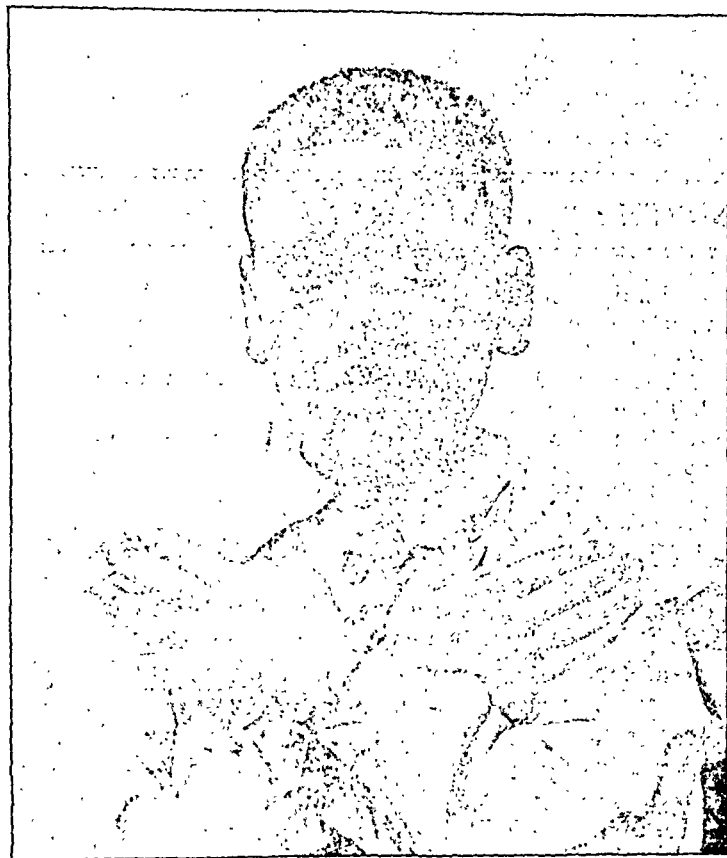


Fig. 1.—Characteristic physiognomy of leprosy.

weather calls at this port semi-weekly. In bad weather it is impossible to make a landing, so that frequently isolation is complete for several weeks. The shore is lined with large rocks, making a rather dangerous approach, and the landing of passengers and cargoes is



Fig. 2.—Leprosy in a girl aged 8 years, showing the characteristic physiognomy of leprosy.

effected by means of small boats. The soil is composed of disintegrated lava and sand, and is made to yield tropical fruits and vegetation by irrigation. An abundance of water is supplied by reservoirs fed by streams from the mountains. As the boat approaches the settle-

ment the appearances of the villages differ in nowise from that of similar villages in other parts of the island. The combination of bright sunshine, cloudless sky, mountainous scenery in close relation with the ocean in which are numerous rocky islands of all sizes, together with luxuriant tropical vegetation and fruits, presents a scene difficult to surpass anywhere in the world.

The census of leprosy in Molokai in 1901 was 1,073. Of the 164 non-lepers, 78 were children of leprous parents, 67 helpers, i. e., those permitted to live and care for the lepers, and the remaining 19 included the superintendent, the physician, the priests, lay brothers, sisters and teachers. The total population is 1,237. Superintendent J. V. McVeigh informed me that there were 861 lepers Sept. 4, 1902, a decrease of 212, of whom about 750 were native Hawaiians. About 600 of the lepers live in Kalaupapa, which is the residence of the medical officer, Dr. W. A. Goodhue; of the superintendent; of the priest of the chapel of St. Francis; of Father Wendelin, the successor to Father Damien, who is in his sixteenth year of service, and of Mother Marieanne, who



Fig. 3.—Tubercular leprosy of the face and ear.

has been in charge of the Bishop Home for Girls with Leprosy for fifteen years and who is assisted by three sisters. At Kalawao, the original settlement, there are about 200 lepers, in which place lives Mr. Dutton, who has been in charge of the Baldwin Home for Boys for seventeen years. The chapel is in charge of Father Joseph, assisted by four lay brothers.

The unselfish labors of these men and women are of the greatest value to the lepers, and I take this opportunity of expressing my appreciation of the excellence of their work and my profound admiration for each of them individually.

It is difficult to imagine a more ideal spot for a leper settlement than that of Molokai, isolated by Nature's barriers, the mountains and the sea; situated within the tropical circle, and possessing a climate admirably suited to those suffering from this disease, and standing in strong contrast to the climatic conditions under which lepers exist in Iceland, Norway and India.

The life led by this community is similar to that of the villagers in non-leprous regions, and they possess

churches, schools, courts and jails. Three baseball teams testify to the popularity of our national game; ping-

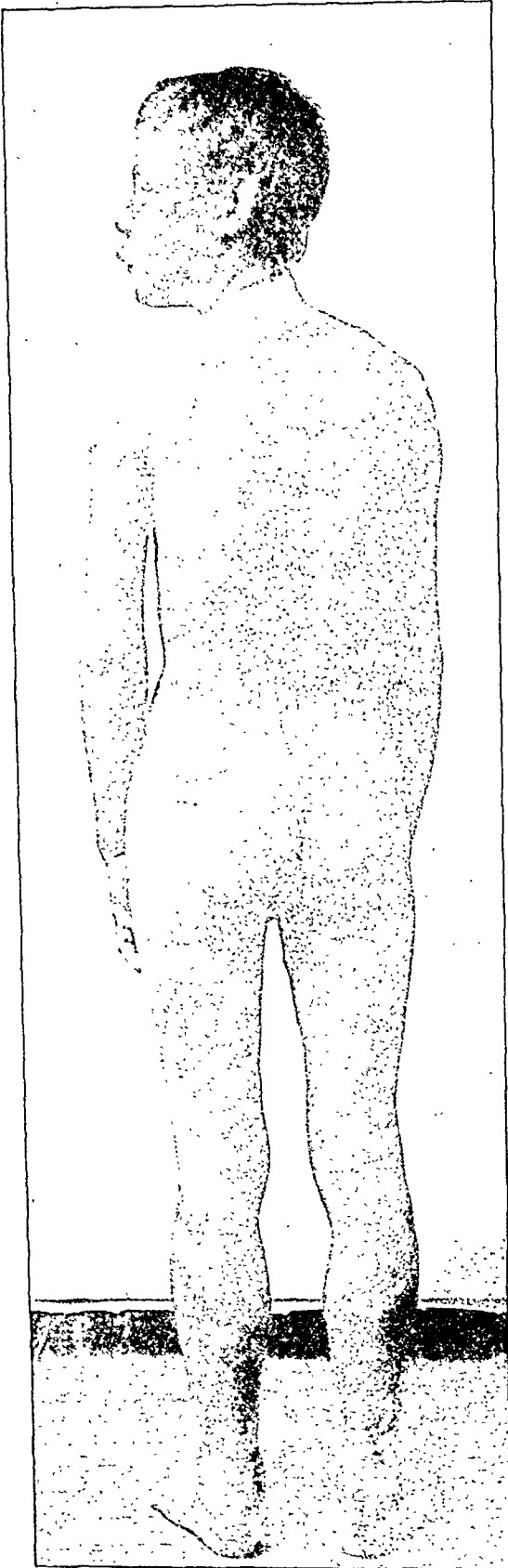


Fig. 4.—Tubercular leprosy.

pong is played with enthusiasm, and many devote themselves to fishing, rowing, hunting, horseback rid-

ing and driving. Most of the members of the community seem happy and contented, and their love of music is shown by the existence of a village band and singing societies. Although the lepers are cared for at the expense of the government, more than \$17,000 was expended in the general store for additional supplies during twelve months. Many of the lepers or their relatives are in possession of moderate fortunes.

The customs of the Hawaiians are such as to facilitate the spread of leprosy, as for example: The use of the family pipe, which is passed from one member to another; the carrying of food to the mouth by means of the fingers, and the general want of cleanliness. I believe that heredity plays a very unimportant rôle in the spread of the disease, as many children born of leprous parents remain free from the disease, more especially if they are removed from their parents at an

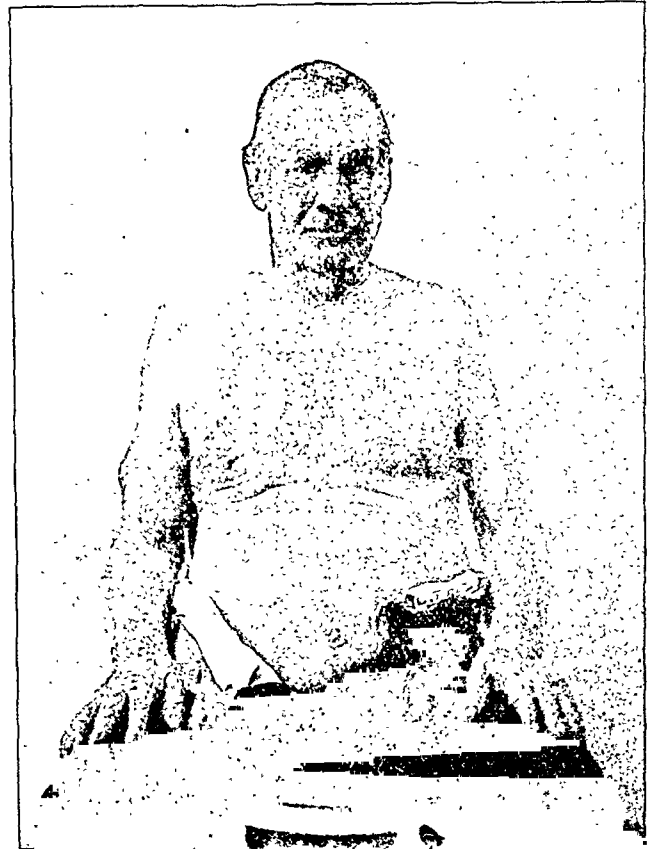


Fig. 5.—Macular leprosy.

early age. In 1884 there were 26 children born in the settlement, one or both of whose parents were lepers before each birth. But two developed leprosy, despite the fact that they had lived in the houses of lepers all their lives. This view is supported by Dr. Carleton, who has had 20 years of experience with leprosy in India and has seen 92 children of leprous parents, only two of whom developed leprosy. The majority of observers in Hawaii believe that leprosy is contagious, which view is supported by the observations of Arning, who inoculated Kenan, the condemned criminal, who 2½ years later showed leprous changes in the skin and in various parts of the body, and died of the disease at Molokai. Unfortunately, this experiment is vitiated by the occurrence of leprosy in his mother-in-law, his son and his nephew. The historical case of Father Damien, a Belgian, who died of the disease seven years after its first

appearance, and the occurrence of ten cases of leprosy in ten years among non-leprosy individuals at the settlement demonstrates the contagiousness of this disease. At the time of this visit no example of a case of this disease contracted in the settlement existed, despite the fact that a number of individuals living in the settlement have been exposed to the disease for periods of 15, 16 and 17 years. The non-infection of a woman who was successively married to three leprosy husbands tends to prove that this disease is but feebly contagious. There is a widespread belief among the physicians in Hawaii that syphilis greatly increases the susceptibility to leprosy, and this is believed to be a part of the explanation of the Hawaiian's susceptibility to the disease. The white race enjoys a remarkable immunity and when proper hygiene and good food is secured the Hawaiian's susceptibility decreases.



Fig. 6.—Macular leprosy, with palmar ulceration and absorption of the terminal phalanges.

Leprosy became widespread during the smallpox epidemic in 1852 owing to careless vaccination. It is believed that the disease may be transmitted by the secretions, by cohabitation and by insects, more especially mosquitoes and flies, and that the portal of entry of the bacillus may be the nares, the mucous membrane of which may have become accidentally abraded by the fingernail, or through the skin, which may have been injured; but, in truth, the exact method of entry and transmission of the poison is, in most cases, unknown. Recent observations show that an enormous number of bacilli are found in the nasal secretions when these parts are affected, suggesting that this is an unsuspected source of great danger. Dr. McDonald has examined the mucus from the cartilaginous portion of the nasal septum in a number of cases of leprosy, but he has rarely found the *Bacillus lepræ*. As in other leper settlements the varieties of the disease are the tubercular, anes-

thetic and mixed; the tubercular variety is most common. Since the establishment of this settlement, from time to time, many forms of treatment have been tried.



Fig. 7.—Leprosy, showing the characteristic plantar ulceration and changes in the fingers.



Fig. 8.—Leprosy, showing the leonine expression, loss of the eyebrows and deformed hands.

but without success. At present the patients are bathed two or three times daily in warm water, and internally

the Goto treatment is employed, the composition of which is a secret. This treatment is apparently beneficial, but is not curative. The tubercular ulcerations are treated antiseptically. There is a widespread belief, however, that the Kausatsu baths in Japan are of decided benefit. Certain cases of leprosy appear to be self-limited, and it is believed that this explains some of the cures that have been reported. The majority of observers believe that segregation prevents the spread of this disease. The following conclusions are deduced from this study of leprosy at Molokai and represent the prevailing opinion in Hawaii:

1. The *Bacillus lepra* is the cause of this disease.
2. This disease is feebly contagious.
3. The Hawaiian is peculiarly susceptible to leprosy.
4. The Caucasian possesses a high degree of immunity.
5. Syphilis predisposes to leprosy.
6. Heredity is a factor of but little importance in the causation of this disease.
7. Segregation prevents the spread of leprosy.
8. The precise manner in which this disease is ordinarily transmitted from the sick to the well has not been proven.
9. There is no cure for leprosy.
10. Benefit may be derived from good hygiene, good food, climate, hot baths and the antiseptic treatment of ulcerative surfaces.

LEPROSY FROM A SANITARY STANDPOINT.*

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NEW ORLEANS.

SOME ANCIENT METHODS.

Almost the first knowledge of leprosy carried with it methods for its control. No doubt many diseases were called lepra which did not deserve the name.

The Hebrews, Arabs, Greeks and Egyptians recognized the disease and named it. With each of these peoples treatment was made subservient, while the sanitary measures were often radical.

The Bible (*Leviticus*, *Numbers* and *Deuteronomy*) quite extensively refers to the lepers among the Hebrews. So true is this that the popular conception of leprosy to-day has been derived from the scriptural relation of it. "And the leper in whom the plague is, his clothes shall be rent, and his head bare, and he shall put a covering upon his upper lip and shall cry 'Unclean, Unclean.' All the days wherein the plague shall be in him, he shall be defiled; he is unclean. He shall dwell alone; without the camp shall his habitation be." (*Leviticus* xiii: 44.)

We read in the same chapter (verse 52) instructions to the priests, "He shall therefore burn that garment, whether warp or woof, in woollen or linen or anything of skin wherein the plague is, for it is a fretting leprosy; it shall be burned in the fire."

"And he shall cause the house to be scraped within round about (chap. xiv: 41-45), and they shall pour out the dust that they scrape off without the city into an unclean place." Clean stones are then ordered and fresh plaster, and if still the disease lurks, "Now he shall break down the house, the stones of it and the timber

thereof, and all the mortar of the house; and he shall carry them forth out of the city into an unclean place.

The children of Israel are commanded to cast every leper out of the camp. (*Numbers*, v. 2.) Here and there we find in the Bible archaic methods of cleansing those who may be afflicted, but these are religious rites rather than practical ones, dealing with exhortations, sprinkling with water made sacrificial with the blood of birds or of the proverbial lamb.

The Koran likewise regulates the life of the leper.

These facts are related here with the idea of calling attention to the fact that the problems of sanitary measures in leprosy are not new; that even among primitive people the character of the disease was such as to create a popular fear of it which demanded remedies of prevention.

Historians of leprosy have traced the disease from Syria into Persia, Hindoostan, China, Japan, Australia, New Zealand, Africa, Turkey, Greece, France, Spain, Britain, Germany, Russia, Scandinavia and the Americas.

We find it rising and declining at different periods in different parts of the world, moving gradually from the East to the West and from the South to the North.

Probably limited in the early period of the world to the Orient and to Egypt—

"High up the Nile mid Egypt's central plane,
Springs the dread Leprosy and there alone."

—*Lucretius de Natura Rerum*.¹

The disease spread rapidly through the south of Europe from the second to the seventh century, reaching its acme from the eleventh to the twelfth.

The earliest record of leprosy in Great Britain is found in the year 950; in 1585, by act of Elizabeth, the leper hospital at Sherburn, in Durham, was assigned to other use; during the reign of Edward VI, 1547-1553, most of the lazarettos were empty.

In Scotland the disease was still traceable in the seventeenth century, a leprosy woman being condemned in Aberdeen; in 1652, the Lazar House at Greenside, in Edinburgh, was dismantled; in 1742, a public thanksgiving was held in the Shetland Islands to celebrate the disappearance of the disease; in 1798, a native of the Shetlands was confined in Edinburgh.

No particular or extraordinary care was displayed with these victims of an unfortunate disease. From the twelfth to the eighteenth century, each of the countries of Europe was afflicted, France notably having placed on record as many as 15,000 in leprosariums, some traces of which remain to-day in Brittany.

SOME METHODS PRACTICED TO-DAY.

In every country in which leprosy has been found certain methods have obtained for their relief or for the protection of the community. In comparatively recent years the attention of the public has been attracted through the conditions in India, Norway and the Sandwich Islands, in each of which countries systematic methods have been followed and direct results obtained.

As with every revolution of ideas, the natural recognition of the fact that leprosy was increasing through the world created an investigation of the fact. First of all, the extensive report of the British Leprosy Commission in India caused a public apprehension because of the knowledge related that there were some 200,000 victims of the disease in that country.

The Berlin Leprosy Conference, in 1897, followed as a natural consequence, and the results of that meet-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

1. Wilson's Text-Book on Diseases of the Skin, 1868.

ing, summed up by a resolution recognizing the disease as contagious, pointing to its undoubted spread and urging the action of governments in the matter, all created an interest which up to the present day is steadily growing. Now, most every government is in line and methods of isolation and prophylaxis have been evolved; Russia has several colonies; France and Germany, Spain and Italy, Greece and Turkey, have all acted on the resolutions of the conference. Japan had already established leprosariums and accounted for 20,000 lepers. The Sandwich Islands have the island of Molokai, and have reduced their lepers to a few hundred in number. Norway, by a radical method of isolation and supervision, has practically eradicated the disease and ameliorated its types. In the Americas, the only hospitals of long standing are those at Tracadie, in New Brunswick, and in Havana. In the former there are about twenty inmates, with only a rare and occasional addition. Havana has 114, most of them among Spaniards, natives and Chinese and almost all of the effete nerve type of the disease. The hospital is excellently managed.

The history of the Louisiana home and of the disease in this state has already been written. Here the types are of the acute forms, undoubtedly endemic and active in character.

The accretion of inhabitants from the Philippines, the increasing intercourse with the western countries, urge a better knowledge of the disease and an appreciation of methods. The United States government has already established points for the isolation of lepers in the Philippines and on the island of Guam.

THE COMMUNICABILITY OF LEPROSY.

Notwithstanding the fact that the lepra bacillus is found in all cases of leprosy in which there are evident lesions of the disease, that the bacillus is frequently in the nasal secretions, that it has been found in the earth from the graves of lepers, that it has been found in the rooms where lepers lived, that it has been found on utensils used by them, there are those who contend that the disease is not contagious. Their argument is based on the fact that Koch's law is not fulfilled, i. e., that the disease is not propagated in animals nor in other subjects, who, inoculated in turn, transfer it to others. I believe we can dismiss these antagonists because of their purely technical position in the face of other circumstantial and positive evidences. To wit: Leprosy spreads in any community in which it is introduced; it spares neither old nor young; it may be selective of race, but it occurs almost directly in close community life; it occurs in families, and has not been proven hereditary; it frequently attacks the children before the parents; there is almost always a history of exposure either direct or indirect and, if sought for, communication of the disease from person to person may be traced.

The shortness of this paper prevents the detailed relation of cases, but enough have been recorded elsewhere to bear out the argument.

Opinion to-day classifies the degree of contagiousness in leprosy. Formerly it was believed that contact with the unbroken skin of a leper would produce the disease. Popular fear created the impression that looking at a leper, being in his presence, was sufficient; to-day, the consensus of opinion carries the belief that the nasal and buccal secretions, together with those of the generative apparatus, are the most frequent sources of the spread of the disease. This is borne out by the fact

that the tubercular types of leprosy nearly always show the first signs on the exposed parts of the body, face and hands, and that early in the disease the nasopharynx presents tubercles.

As a protagonist for the non-contagiousness of the nerve type of the disease, Dr. Ashburton Thompson suggests that these cases present no lesion in which the bacillus may be found, and that they are rather the types of the effects of the bacillus than of an acute disease. He has repeatedly examined the macules and nerve sheaths, together with the nasal passages, with negative results so far as the bacilli are concerned. Dr. Thompson has many followers. The writer is in line up to a certain point, but experience has shown that in these cases, when neglected, the course is the same as with other types of the disease.

Within the last five years no less than six cases of nerve leprosy have been treated in the clinic for nervous diseases at Charity Hospital, in New Orleans, as syringomyelia, subsequently being referred to me when eruptions appeared. Of these cases, three presented tubercle lesions, the others being seen in time to prevent the granulation changes.

METHODS OF PROPHYLAXIS FOR INDIVIDUAL AND COMMUNITY PROTECTION.

The writer is comparatively a young man, and in his relation to the disease of leprosy his experience has been just a decade. In that time, however, the opportunity has been afforded of the observation of the disease among all classes of people: The beggar, the indigent and careless negro, the workman crippled by the disease, the butcher, the baker, the cook, the clerk, the tradesman, the merchant, the housewife and the well-to-do.

Within these ten years have been noted instances of the disease spreading from father to child, from daughter to mother, from sister to sister, and many others occurring with no evident family relation accounting for the disease.

The evidence has been sufficient to thoroughly impress the fact that the disease does spread and that it occurs in individuals in Louisiana who have either lived in affected communities for periods of not less than ten years or else they were born, reared and have always lived in the state.

Cases have been noted which have lived in comparative intimacy in the family life with no evidence of the spread of the disease—as yet.

The subject of prevention in leprosy has been thoroughly discussed both from the standpoint of the individual and from that of the public, and whatever opinion the writer may have must, of course, repeat in large measure the views of those who have gone before. This may be stated briefly under two heads:

The Individual.—Either the victim of leprosy should be segregated with those of like condition or else, if he lives in his own family, he should be given a separate room; should have his meals alone; should wash his own utensils and should have his laundry boiled separately. I believe that this is difficult, because, even when the family are aware of the disease, they become careless in the family relations.

The Public.—The public care of lepers provides: (a) segregation under systematic methods which should consider (1) the segregation of the sexes; (2) some arrangement by which the trophic or nerve type should be entirely separate from the tubercle type or skin leprosy, because it is my belief that there is no reason why a leper with nerve leprosy should not acquire fresh lesions from

infection by a new contagium carrying the leper bacilli, found so freely in the tubercle type. Heretofore leprosy has been held as incurable and the simple diagnosis of leprosy has been sufficient to condemn a victim, irrespective of the type and he is doubly condemned if he is exposed to fresh infection while he is trying to get well. (b) Particular methods of sanitation should obtain. No institution pretending to care for lepers should be without the fullest equipment for bathing facilities, both medical and plain. Water in leprosy is as potent in its prophylaxis as it is for remedial use.

One word in conclusion. Educate the profession and the public regarding the disease. Let them know what leprosy is, not a colored impressionist's picture, but the truth of its physical and moral characters.

Unfavored of God's kind,
And set apart, a curse;
A living death for men to pity,
As they shudder at the worse
Than sin, or pain, or shame
Of *It*; for can a name
Be borne by one of these?

Not spotted white, nor snowy clean,
As Bible tales remark it;
But, bursting through a boiling skin
Of lumps and bumps, a thickened mass
Of bronzed and blackened human kin,
With here and there a spot of brown
Or lighter hue, while over all a tint of red
By Nature's thrown, as if to hide the frown
Which masks the soul of those
Who bear the burden of the blight.

Nor king nor serf the scourge hath spared,
And as the ages into æons run,
These sightless, voiceless human parodies
Will breathe the tones of the Unblest;
Accursed by all, marked by Fate,
As victims of the great Unrest,
The Morbid in the True, too late
To save their souls for better things.
And so the fell decree makes members
One by one to fall, until at last
The end finds semblance only of a past.
A trace alone of kinship to the race
Which bore it, in this, a mass
Of tissues, human once, but now
Distorted, framed and bound in shapes
Fantastic in their frightful symmetry,
And shorn of everything but form.

124 Baronne Street.

DISCUSSION.

DR. G. T. SWARTS, Providence, R. I.—The subject of leprosy is a matter that does not come very prominently before our health boards, and yet our experience in Rhode Island leads me to believe that it would be well for all our state health officers to familiarize themselves with the customs in vogue in the states where lepers are found in respect to isolation of the patient. In our principal hospital in Providence there appeared a case of what we called skin disease, ulcers on the foot and a mottled appearance of the skin. There being anesthesia in the lower limbs and the arms we thought that our neurologist should have the case in his department. However, the interne, becoming suspicious at the mottled skin, and thinking possibly it might be a case of leprosy, referred to the books and discovered that anesthesia is a common condition of leprosy, and considering the ulcers at the base of the big toe, he jumped at the conclusion that it was leprosy. To make sure about it he obtained the nasal secretions and there found the bacilli of leprosy. That, of course, made the diagnosis complete. That man had been living in the city for five years without our suspecting that he was a leper. He had abnormal thickening of the face, but you could find the same condition

in any sailor on our coast. The question with us was what to do with the man. Should we isolate him as we do in small-pox cases, or should we give him the freedom of the city? We wrote to Dr. Dyer and others familiar with the subject, and obtained valuable advice. In the meantime, unfortunately, the man, finding out what the disease was, asked for his clothes and disappeared. We have not been able to trace his whereabouts since. Had he remained with us we would have been worried to know what to do with him. We, of course, wanted to protect ourselves, and yet not impose on the individual. That is the reason this paper was requested of Dr. Dyer, so as to put the various health officers in position to know what to do in cases of this kind. You know that the public, immediately on hearing of a case of leprosy, imagine there is a scourge of the disease, and demand extreme precaution from the health officers for it.

DR. W. H. SANDERS, Montgomery, Ala.—Could you trace the infection?

DR. SWARTS—He had resided in South America for twelve years before he came to us. He had lived for years with his wife, who was not affected, so far as we know. She has since died, of some other disease. A daughter, aged about 12 years, did not seem to be affected. Therefore, the question arises as to whether there is any danger of infection. The nasal secretions were found to be saturated with these organisms, which, it seems to me, could have been communicated to any susceptible soil.

DR. H. M. BRACKEN, Minneapolis—The conditions in Louisiana and those in Minnesota are supposed to be quite different. As I understand it, all, or nearly all, of the lepers in Louisiana are American born or residents of the United States for some time. Is not that so?

DR. DYER, New Orleans—The list of cases which I submitted to the Berlin Leprosy Conference have either lived in Louisiana for at least ten years or were born here; and the same statement is true of all cases coming to my knowledge since I made up that list. I never saw a Chinese leper in my life, and only one Scandinavian; he was sent back by the same ship on which he came.

DR. BRACKEN—There were some Norwegians who came to our state with the idea that change of climate would give them an opportunity to recover. There were a considerable number of lepers in Minnesota fifteen or twenty years ago, but only a few now, and the position was taken that in Minnesota there is no danger of the disease being transmitted. There was no record of any American-born leper in Minnesota until within the past two years. I know of three now, but they are all of Scandinavian parentage. Two of them were brothers. There were no lepers in the family, and it is thought that the first brother became infected from a nurse girl. The third case I have in mind is the son of a leper. Under the conditions prevailing in Minnesota we have thought it only necessary to give the family advice as to how to care for the leper, in the shape of food, clothing, etc., without separating the subject from his family entirely. So far as I know, there has been no spread of the infection, except in the cases mentioned above. Minnesota is watching to see what the nation will do, because we feel that the disease can be better dealt with by the federal government than by the state. Of course, lepers who are poor are taken care of by the counties and are isolated.

DR. SANDERS—How many lepers are there in Minnesota?

DR. BRACKEN—I know of thirteen or fourteen. They keep dying off and new ones coming up. So far as I know there were never more than twenty-eight or thirty in the state at one time. When I became secretary of the State Board of Health there were twenty-two, but some of these have died. Wisconsin used to have some lepers, but the state is getting older now, and they only have two or three. Iowa also has a few. There are also some isolated cases in North Dakota.

DR. J. M. LINDSAY, Havana, Cuba—Do you know the history of the American soldier that got the disease in the Philippines?

DR. BRACKEN—I do not.

DR. T. T. FRENCH, Honolulu—The history of leprosy in Hawaii is interesting from a sanitary standpoint. The popu-

lation there has always been small and compact. There are no densely settled places, nor are there any sparsely settled ones. The country is so remote that commerce and intercourse with other countries have been very much restricted. There are a large number of Americans living in close proximity to the natives, and the country has a larger proportion of physicians than such small countries usually have—and a good many very able ones, too. Fifty years ago there were no lepers there. Thirty years ago one in each thirty Hawaiians was a leper. There is no absolute record with regard to the first case among them, but there were a number of Chinese imported, and they undoubtedly brought the disease. There was no word in the native language for leprosy until the disease appeared, and it is now called "mai pake," meaning "Chinese sickness." There is some dispute as to the time and place when that name was first given to it, but it is universally used by the natives, and I judge that the disease comes by the name honestly, because, as I say, a lot of Chinese were imported to work on the sugar plantations, and, of course, they brought the leprosy with them. About thirty-five years ago, fifteen years after these Chinese came with their disease, lepers were isolated on the island of Molokai, and a colony established there. We noticed that the disease kept on spreading after the establishment of that colony, until it reached its maximum, about thirty years ago. Since that time it is claimed that the disease has diminished, but my opinion is that it has probably remained about the same, because the population has been reduced, and while there are about 800 lepers in this colony, there are about 400 at large, making an aggregate of 1,200. Therefore, the effect of segregation has evidently been to check any spread. The reason for not isolating cases in the early stage was simply for fear that a correct diagnosis had not been made. When cases were sent to the board of health for examination they were not willing to segregate them, so they were pronounced leper suspects, and sent back to their districts to be kept under surveillance and make periodical reports to the local officers. In that way they were allowed to linger in the district a long time, and conditions got worse. I think that is the way the disease has been allowed to keep on and smolder as it has.

DR. ISADORE DYER—Referring to the point made by Dr. Swarts, I had a case of a girl who had been treated by Dr. Blanc some seven years previous to her calling on me. She bore no evidence of leprosy beyond a true trophic ulcer on the ball of the big toe. I did not examine it bacteriologically. The father of the girl was a typical tubercular leper and a recent case. It was a matter of history that the girl had been infected at least seven years before she came to me. The father was an Irishman who had lived here for years, and the girl was about 22 years old when I saw her.

DR. T. T. FRENCH—As to leprosy being hereditary, there is a home in Honolulu for the non-leprosy children of lepers. The parents often object to their children being taken away, but there is generally an average of twenty or twenty-five girls kept there until they are 18 or 20 years of age. Only one case of leprosy has ever developed there, though we have many children of two leprosy parents. After they leave the home you can not tell anything about them, but when you consider that they stay there until they are about 20 it seems to me that is a pretty strong argument against leprosy being hereditary.

Hemostatic Action of Ovarian Extract.—The tendency to hemophilia seems to belong exclusively to the male sex. It may be transmitted from grandfather to grandson, remaining latent in the mother. This fact and the frequent observation of severe epistaxis in young girls approaching puberty, when the ovarian functions are not yet fully established, suggested to Dr. S. Zavadier of Fouriesburg, southern Africa, that the ovary might possibly be the organ that inhibits the tendency to hemophilia and thus renders women exempt although able to transmit the tendency to their offspring. In a recent severe case of hemophilia, rebellious to all other known measures, he finally administered ovarian extract and with the most encouraging results. The *Semaine Médicale* mentions in quoting his communication that Dr. E. Fuller of New York recently proposed thyroid treatment for the same purpose.

FIXATION OF THE PROLAPSED KIDNEY.*

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NEW YORK.

That so many modifications of this operation have been made since it was originally attempted by Hahn in 1881 is the best evidence of the necessity of correcting prolapse of the kidney by permanent fixation, despite the opposition to operative interference in some quarters by those who favor belts and corsets. It suggests also the possible inefficiency of many of these procedures. Almost every well-known surgeon has some special technic of his own, but few of them have many followers. It is my purpose in submitting here a technic of my own, which I have employed now for nearly three years and

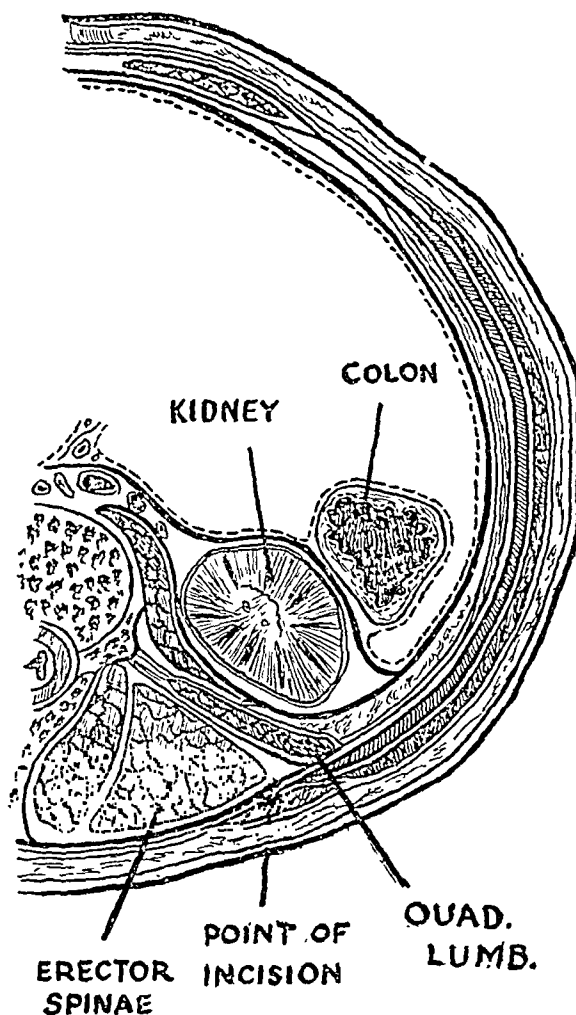


Fig. 1.—Showing the relation and attachment of the colon to the kidney, and the relative location of the muscles encountered in reaching the kidney through the vertical lumbar incision.

have found uniformly successful, to point out some of the causes of failure with this operation and show how it may be made successful and satisfactory.

The inadequacy of belts or corsets or any other form of external support when the kidney has descended below the border of the last rib in front so its upper pole may be palpated, is more readily appreciated if we consider what such support does. It is only a substitute for relaxed abdominal walls and the pendant abdominal organs, but in only a small proportion of these cases is the abdominal wall relaxed. The kidney is normally a movable organ, its normal range of mobility downward being from an inch to an inch and a half on deep in-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

spiration, and it is restrained from further descent only by its surrounding fat and the vessels entering the hilum. To some slight degree additional support is afforded at times by the intestines—the colon in particular, to which it is attached on its anterior surface. This attachment of the colon, however, is one of the chief reasons for its displacement, for when the colon becomes distended it drags on the kidney and the traction is invariably downward when the waist is constricted by corsets or clothing, the distended bowel, as is well known, being crowded below the waist line.

Belts and corsets are not, however, entirely without value, and are useful in the earlier stages of mobility before the kidney has descended below the rib in front, to prevent or retard further descent, and also after operation to support the abdominal organs when necessary and give the patient a feeling of greater security. I believe, however, they are of little or no value in preventing recurrence of the prolapse when the operation for securing fixation of the organ has been properly done. On the other hand, belts and corsets, beside being inadequate, are positively injurious when adjusted to support the kidney after it has descended below the border of the rib because of the irritation to the kidney from the pressure exerted on it. My views on this point correspond with those of Henry Morris of London, who has also had abundant opportunity for careful observation.

The disadvantage, then, of belts or corsets adjusted to support the kidney when it is prolapsed below the ribs in front, is that the pressure necessary to afford effective support will certainly provoke undesirable irritation and eventually lead to serious inflammation in or about the kidney.

INDICATIONS FOR OPERATION.

Prolapse of the kidney to the third degree or beyond, that is, when it has descended below the border of the last rib in front and its upper pole can be palpated when the patient is in the erect position, may be considered sufficient indication for operation because:

1. Prolapse of the organ to that degree permits abnormal mobility and is not conducive to health or comfort though it may not produce intolerable symptoms at first.

2. The position of the kidney when the patient is in a sitting or the erect position interferes with the draining off of the excreted urine, either because of flexure of the ureter or compression of the ureter by the kidney which overlaps it and presses backward on it when the abdomen is constricted by the corsets or clothing.

3. Its circulation and function are seriously impaired by the displacement, and inflammation of its structure frequently results.

4. The kidney when prolapsed to this extent overlaps the ovarian vein as it ascends along the spine, compressing it and retarding the return circulation from the pelvis, thus being a frequent cause of pelvic disease.

If the opposite kidney is sufficiently movable to descend on deep inspiration so that half of the organ can be palpated, it should be fixed at the same time as its fellow to avoid the necessity of subjecting the patient to a second operation, which would be inevitable, because when the kidney is movable to that degree the mobility invariably increases, the degree of descent being progressive. I have several times been obliged to repeat the operation on the left kidney a year or two after fixing the right when either the patient or her physician has opposed a double operation or when the degree of descent of the left kidney at the time of the

first operation was not considered by me sufficient to warrant operation.

Nephropexy is justifiable in hysterical and neurasthenic patients because it is an anomalous condition that should not exist; it is a constant source of irritation; it impairs the health of the patient and may operate as a cause of these nervous disorders by acting as an internal traumatism.¹

PREPARATION OF THE PATIENT FOR OPERATION.

In addition to the usual preparation of the field of operation to secure asepsis, there is some general preparation of the patient that is essential for success. It is useless to delay operation in an attempt to build up a patient whose health is impaired in consequence of this condition, but very much can be accomplished that will be of material aid at the time of operation and during convalescence by correcting digestive disturbances beforehand and securing normal functional activity of the liver, and it is well worth the delay required.

It is very necessary to avoid excessive vomiting following anesthesia because of the strain it puts on the freshly attached kidney, and this can only be obviated by relieving the digestive disturbances beforehand by careful dieting and medication and restoring normal activity of the liver. At least a week should be consumed with such

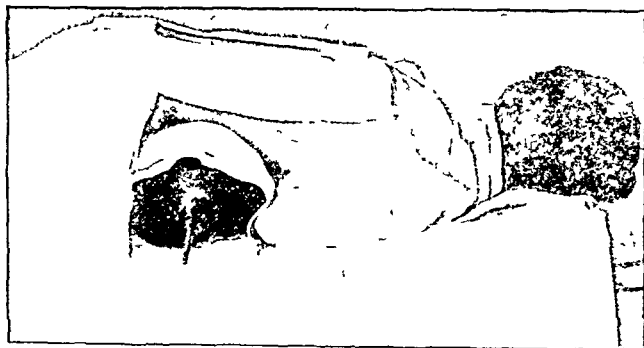


Fig. 2—Showing position of the patient on the table, ready for operation, with the air pillow in position under the abdomen

preparation and in cases of long standing from two to three weeks' preparation will insure a smoother convalescence.

OBJECTS TO BE OBTAINED IN NEPHROPEXY.

1. Permanent fixation of the kidney in its normal position.

2. Complete separation of the kidney from its attachment to the colon and duodenum in front to obviate subsequent dragging on it.

3. Avoidance of injury or mutilation of the kidney.

4. Avoidance of mutilation of the patient by a disfiguring scar or injury of the structures penetrated in gaining access to the kidney.

5. Cure of the symptoms or conditions caused by the prolapse.

TECHNIC OF THE OPERATION.

The patient when anesthetized is turned over on the abdomen and a roll or air-pillow eight inches in diameter is placed under the abdomen which flexes the spine, increases the costo-iliac space and forces the kidney up into position. A vertical incision is made through the skin and fat down to the first layer of muscles beginning just below the last rib and extending downward along the outer border of the erector spinæ muscle for about three and a half inches. This will be about three to four fingers' breadth from the spine according to the

1. Albarran, quoted by Henry Morris

width of the back. The sheath of the erector spinæ should not be opened, but the fibers of the latissimus dorsi are drawn aside with blunt hooks and the lumbar aponeurosis is divided with scissors to the limit of the wound above and below, exposing the quadratus lumborum muscle beneath. Bleeding points should be caught with hemostatic forceps and tied before proceeding.



Fig. 3—Showing location of the vertical lumbar incision on both sides.

Broad retractors are now inserted and the quadratus lumborum muscle is drawn to one side toward the spine, exposing beneath the transversalis fascia. This fascia is divided with scissors to the extent of the wound above and below, exposing the fatty capsule immediately beneath it. In dividing this fascia it is important to avoid the iliohypogastric nerve, which crosses obliquely in



Fig. 4—Author's blunt hooks (reduced in size) employed for separating muscles in the direction of their fibers in gaining access to the kidney after incision through the integument and fat.

front of the quadratus lumborum muscle and to include it in the retractor on the spinal side of the incision.

The kidney is now located by inserting the finger and sweeping it around over the surface of its fatty investment. The fatty capsule is then opened with scissors well up toward the upper angle of the incision and well over toward the spine to avoid opening into the peri-

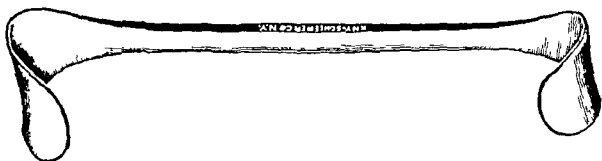


Fig. 5—Author's broad universal retractors (reduced in size).

toneal cavity or wounding the intestine which bulges up at the lower angle of the wound, and the incision is extended in a vertical direction downward on the finger as a guide. The margin of the fatty capsule on each side is seized with T forceps and traction is made on them to bring the kidney up into the wound and the work of detaching the fatty capsule from the kidney is begun. In

adjusting the T forceps to the outer margin of the fatty capsule care must be taken not to include the intestine or peritoneum.

If the peritoneum is inadvertently opened in exposing the kidney no harm will result if it is immediately closed by a running suture of fine catgut. The incision then to expose the kidney is to be made further over toward the spine. This accident should not occur if the kidney is in position and is properly located before the incision into the capsule is made.

In detaching the fatty capsule from the kidney the finger should be used, aided by blunt scissors where particularly resisting bands of adhesion are encountered. The lower pole of the kidney is to be freed first, then traction on the detached fatty capsule will bring it up into the wound. If the kidney can not be delivered through the incision by traction on the capsule the patient is rolled downward on the air-pillow under the abdomen, which brings its pressure more directly on the border of the ribs and forces the kidney up into the wound.

Traction now downward on the kidney grasped with a gauze pad held between the fingers and traction on the fatty capsule at the same time will succeed in delivering the kidney through the incision on the surface of the back.

The fatty capsule is then completely detached from the kidney around both poles and on each side back to



Fig. 6—Author's kidney needle (actual size) for inserting the sustaining sutures under the fibrous capsule.

the hilum. Complete detachment of the colon and duodenum in front is thus secured, and behind the kidney is left bare of its fatty investment for subsequent adhesion to the solid structures of the back.

It is not always necessary to deliver the kidney through the incision in order to detach the fatty capsule and insert the sustaining sutures, and it consumes more time. When, therefore, complete detachment can be accomplished without doing so this part of the technic may be omitted.

The pelvis and ureter are now carefully explored with the finger for stone, which should be removed if found before proceeding with the operation.

The fibrous capsule is not detached from the kidney nor is its surface scarified. Firm adhesion of the kidney with its fibrous capsule intact can be secured invariably if the kidney is held immovably in contact with the opposing structures for a sufficient length of time. To accomplish this, however, the suture material employed should be one that does not stretch or become absorbed, and it must be inserted and tied so that the suture loop does not become loosened by cutting into the tissues. We have in silkworm gut a material that will meet these requirements, and to render it pliable it is boiled and preserved in a 3 per cent. solution of lysol. My record of 159 nephropexies by this method without a failure to secure permanent fixation shows conclusively that stripping off the fibrous capsule or further mutilation of the kidney as by sutures which transfix the parenchyma is quite unnecessary.

The sustaining sutures, two in number, are inserted on the posterior aspect of the free border of the kidney. One, the lower, is inserted at about the junction of the middle and lower thirds of the organ and the other at about its center or midway between the poles. The

suture is threaded into small, full-curved needles one inch long, and is bent sharply at the eye of the needle and twisted tightly to avoid tearing the capsule as it is drawn through.

The needle is inserted first from above downward in a direction somewhat obliquely inward to the long axis of the kidney, and penetrates only beneath the fibrous capsule for about half an inch in length and the suture is drawn through; then it is inserted transversely a little below the point of exit of the first insertion, penetrates beneath the fibrous capsule only for a distance of about half an inch and the suture is drawn through, and then again inserted obliquely from below upward at a point opposite the first insertion about an inch from it and the suture is carefully drawn through. The needle is removed and the two ends are clasped temporarily with a hemostatic forceps. The second suture is inserted in a similar manner just above the first. (See Fig. 7.)

Inserted in this manner the suture will resist very considerable strain on it without cutting out—very many

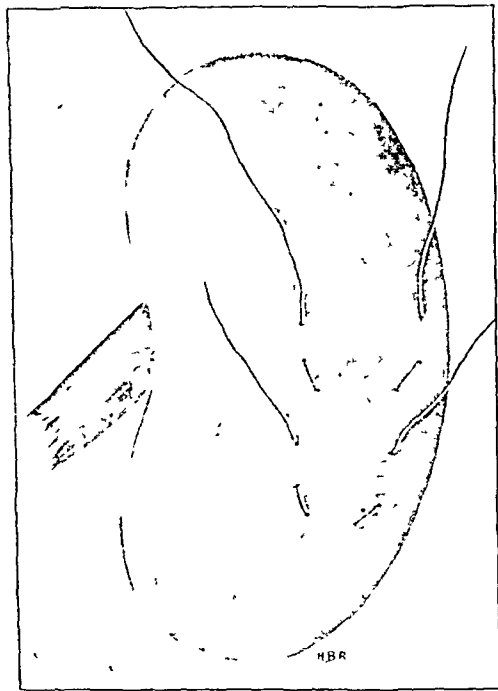


Fig. 7.—Author's sutures for fixing the kidney. Showing their location and method of insertion under the fibrous capsule, which is left intact.

times more strain than the transverse suture, which penetrates the parenchyma, or any suture inserted through the detached fibrous capsule, and it does not mutilate. The stability of this suture seems to be due partly to the exposed portion of the loop left on the outer surface of the capsule and partly to the direction of the traction which is borne mainly by the transverse insertion of the loop and which is in a direction parallel to the capsule or surface of the kidney and not at right angle to it, as is the case with all other sutures employed for fixing the kidney.

Before returning the kidney into its normal position the redundant fatty capsule behind is trimmed off with scissors or torn off, and that in front also, but here care is necessary to avoid encroaching on the peritoneum or bowel. The fat about the lower pole is not removed.

If the kidney has been delivered through the incision it is now replaced and the ends of the sutures are carried through all the structures of the back and brought out on

the surface at the upper angle of the incision—a long, curved perineal needle with eye near the point being utilized for this purpose. The sutures are tied over a fold of several layers of gauze placed lengthwise to the incision. This prevents the suture from cutting through the skin and loosening of the loop. When tied these sutures bring the kidney up into its normal position with its upper pole under the ribs.

A gauze drain is now packed around and under the lower pole of the kidney, forcing back the fat that has not been removed and the bowel which bulges up below the kidney, and the end is brought out at the lower angle of the wound.

The wound is closed by uniting the divided superficial fascia with a running catgut suture and the skin with the subcuticular suture. A bountiful supply of loose aseptic gauze is applied next the wound and over this is placed a thick pad of absorbent cotton covered with gauze, and this is held in place by adhesive strips and a binder encircling the body.

AFTER-CARE OF THE WOUND AND OF THE PATIENT.

Twenty-four hours after the operation the dressing which will be found soaked with drainage from the wound should be removed and renewed, but the wound is

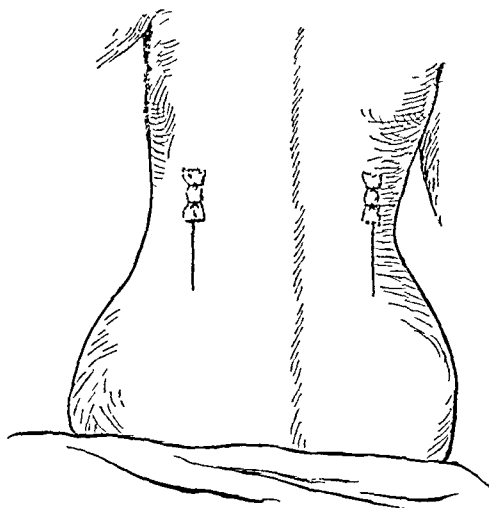


Fig. 8.—Showing position of the gauze pads at the upper angle of the incision, with the sustaining sutures tied over them.

not otherwise disturbed. At the end of forty-eight hours the gauze drain is removed and the dressing renewed. After this the dressing is removed whenever necessary.

The sustaining sutures are not removed until the twentieth day, the day before the patient gets out of bed. The exposed portion of the loop of each suture on one side of the gauze cushion is cut with sterile scissors and the suture pulls out readily, adhering to the gauze when it is lifted off. A simple dressing of gauze is applied afterward.

When renewing the dressings the patient should be turned on the side operated on, and if both kidneys have been fixed at the same time she should be turned on the side that the displacement was greatest.

During the first twenty-four or forty-eight hours the patient will complain of considerable pain in the back and the temperature may rise to 101 or 102 degrees, but both pain and temperature will subside when the drain is removed. An eighth of a grain of morphin may be given hypodermically during the first twelve hours if the pain is sufficiently severe to require it, but it should be avoided when possible. In those cases where drain-

age has not been employed the pain has been quite as severe, so it does not seem to be due altogether to the presence of the gauze, but rather to the manipulation of the structures of the back at the time of the operation.

Vomiting should be avoided if possible, and for this purpose nothing acts so well as oxalate of cerium, in doses of from seven to ten grains, repeated in three to four hours. The stomach should be kept empty for the first twenty-four hours, nothing being given during this time but hot water in small quantity at a time. If thirst is annoying, an enema of normal saline solution should be given. The bowels should be moved on the second day after operation and every day thereafter. Careful dieting will be necessary in some of these cases to keep in abeyance digestive disturbances which may continue after operation, and functional activity of the liver should be preserved throughout convalescence.

During the period of confinement to bed, which is three weeks, the patient should be kept strictly on her back if both kidneys have been operated on. But if only one has been fixed she may turn on the side of the affected kidney. The reason for this is obvious, as it prevents the kidney from dragging on the sutures.

When the patient gets up she should wear an elastic abdominal belt which reaches from the pubes to the level of the lower border of the ribs. This should be worn for at least six months and she should avoid exertion of any kind that would put unusual strain on the kidney. If she has worn corsets before they may be resumed after a month, but the belt must be worn as well, and they must be adjusted so they will be snug over the lower abdomen and hips and loose at the waist and above.

One thing that must not be lost sight of is the digestive disturbances or other disordered conditions that the displaced kidney may have caused. These may not subside unaided after fixation of the kidney, and the patient should be kept under observation and treatment until a fair state of health has been restored. Removal of the cause does not always cure immediately disturbances that have become chronic. Some of these patients show improvement from the beginning of convalescence and require no further attention after they are able to get about again, but others may require attention for some time after.

THE CAUSES OF FAILURE AFTER NEPHROPEXY.

There are many reasons why this operation may prove either a failure or may fail to afford anticipated relief, and to make them more comprehensive they are arranged as follows under separate heads, viz.:

1. Delay in operating until the kidney has become seriously disabled or an incurable nephritis has developed.

2. Delay in operating until the health of the patient and digestive apparatus are seriously impaired or incurable.

3. Unusual and irreparable ptosis of the abdominal organs as a complication of nephroptosis. In these cases, however, since the kidney is many times the most important element of the enteroptosis, fixation of this organ and support of the others by belt places the patient in a comparatively comfortable condition.

4. Failure to prepare the patient properly for the operation.

5. Failure to detach completely the fatty capsule from the kidney—that on the posterior surface to permit the kidney to come into contact with the structures to which it must become adherent, and that on the anterior surface so as to separate the attachment of the colon and

duodenum on the right side and colon and pancreas on the left. Unless this detachment of the bowel from the kidney is complete there will still be dragging on the kidney, which, if it does not pull the kidney away from its attachment, will give rise to annoying pain and other symptoms.

6. Improper insertion of the sustaining sutures whereby they either tear out completely or cut through the fibrous capsule and permit mobility of the kidney before it can become permanently attached.

7. Failure to immobilize the kidney until it can become permanently attached by adhesive inflammation, either by improper tying of the sutures or the use of suture material that stretches when it becomes softened after being buried in the deep tissues of the back or absorbs too quickly, or by fastening the retention sutures to the soft structure only which yields to the constriction of the suture allowing the loop to loosen.

8. Too early removal of the retention sutures.

9. If the remaining fatty capsule is permitted to become interposed between the kidney and the structure to which it should adhere, which may occur either at the time the wound is closed or shortly after, the stability of the attached kidney is greatly lessened. This may be obviated by employing a gauze drain packed around and under the lower pole. An additional advantage of this gauze drain is that it lessens the strain on the retention sutures and prevents the accumulation of blood and serum about the kidney after the operation.

10. Delaying the removal of the gauze drain too long after operation, which would permit accumulation of the discharge back of the gauze.

11. Excessive vomiting or coughing shortly after operation may loosen the kidney from its fresh attachment.

12. Permitting the patient to turn on the opposite side too soon after operation may cause detachment.

13. Permitting the patient to assume the erect position too soon after operation.

14. Neglect to adjust proper support for lax abdominal walls after operation when the patient gets out of bed.

15. Too early resumption of the corsets or their improper adjustment.

16. Permitting too early such exertions as would put unusual strain on the kidney.

17. Attachment of the kidney too low down in an abnormal position whereby it would be constricted and irritated by the pressure of the clothing at the waist or by the corsets.

18. Neglect to correct by remedial measures after operation derangement of the digestive apparatus and other conditions caused by the prolapse.

RESULTS.

When the kidney is properly and permanently fixed in its normal position and the conditions caused by the displacement have been corrected, the result of the operation will be satisfactory. We must not, however, lose sight of the many possible contingencies that may interfere with a final successful issue and lay undue stress on the correction of the displacement alone.

Objection to the operation on the score of its mortality does not hold, for I have done 159 nephropexies on 126 patients, in 33 of these fixing both kidneys at the same time, without a death and without a failure to secure permanent fixation. Cure has resulted in all cases that I have been able to trace in from two to twelve months after operation. In one case only was the operation followed by an unpleasant complication—iodoform pois-

oning resulting from the use of 10 per cent. gauze freshly prepared with ether and alcohol. The patient, however, made a good recovery and was out of bed at the usual time.

It has been objected that the risk of an operation is not warranted in these cases when the symptoms may be relieved by a properly adjusted belt or corset. Estimated from the above report the operation has no mortality, hence there is no risk entailed, and temporary relief of symptoms does not mean a cure. Neither the corset nor the most perfectly adjusted belt will replace the kidney or hold it in its normal position. Nor will it cure the prolapse. But they may and do often provoke serious irritation of the kidney by the pressure they exert which will eventually lead to inflammation in or about the organ.

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DISCUSSION.

DR. CARL WAGNER, Chicago—In every operation on so delicate an organ as the kidney cryoscopic examination is a most important preliminary step. This most scientific means of diagnosis of disease of the kidney has been greatly perfected and used extensively with great advantage and satisfaction by the eminent workers, Von Koranyi, Leopold Casper, Friedrich Richter, Kummel, Beckman and others. It is in use all over Europe, while we hear little of it in America as yet. By the author's new suture, which places the kidney in an absolutely physiologic position, is secured a more perfect result than we have ever achieved before. I have used a similar method on the stumps of ablated uteri. I called the suture a guy-rope, and it is intended to hold the stump in position against the parietal wall of the peritoneum. It is fastened over a Maydl bridge and keeps the stump of the uterus in that position until the external wound is closed. The guy-rope is a silk suture carried through the stump and knotted at its end, so that it can easily be removed when the granulating wound is almost healed shut. I have done the same thing on the kidney by putting two lateral sutures through the capsule and fastening over a Maydl's bridge, left *in situ* for twelve days with great satisfaction. The strip of gauze which Dr. Goelet inserts under the lower pole of the kidney for drainage corresponds to some extent to Dr. Senn's method, with the only difference that the gauze strip is used by the latter in larger size and serves as a rest and means of suspension for the lower part of the kidney. I would leave this strip in about six days, so that it not only drains but also favors the development of granulations, as another reliable means for fixation of this organ.

DR. L. H. DUNNING, Indianapolis—I believe we have not yet found the ideal method of operating on the kidney, although 159 successes ought to commend any method. Dr. Goelet's success, however, I think, is due quite as much to the gauze as to the method of placing the stitches. I long ago gave up the idea of attempting to retain the kidney with stitches without opening the fibrous capsule, which, if allowed to remain intact, serves as an obstacle to the formation of firm adhesions unless you get them from the perinephritic fat. I believe that if Dr. Goelet would leave out his gauze and use only his method of suturing he would have an occasional failure. I can not see the advantage of leaving the fibrous capsule intact. I have never observed any ill effects from opening it; I have opened it at least 40 times. The objection that he advanced, that the kidney has been anchored too low by former methods, is true. If the kidney is anchored as indicated in the drawing, through a vertical incision, even this method will leave the kidney lower than normal. We often find that we can palpate only the lower pole of the kidney even when we incise close to the twelfth rib. We must pull the kidney down into the wound. The kidney is about two-thirds of an inch above the twelfth rib in many cases, if not in the average case, so that even in these cases we anchor it lower than normal. But I do not believe that that

cuts any figure whatever in the results. I do believe that the opening of the capsule is very beneficial in overcoming the attendant pain and in helping to establish stronger adhesions to the contiguous parts. The after-treatment is very essential. Constipation and vomiting being among the most frequent causes of poor success in the anchoring of the kidney, I look very carefully after the bowels. I do not give any food that is likely to cause fermentation, and whenever there is a tendency toward, or a desire for, a bowel movement the patient should be assisted in every possible way. This is so important that it is advisable for the operator to look after it himself.

DR. EDWIN RICKETTS, Cincinnati—A record of 159 operations in three years with no failures is the best record in this country or Europe. I want to commend the silkworm gut suggested, and also the practice of bringing the kidney higher up without splitting the capsule; and yet, possibly, there might be one thing to take into consideration, and that is, if in the future that kidney might be affected with Bright's disease, such a splitting of the capsule, if that is a cure of Bright's disease, could have prevented the occurrence of that disease. I agree with Dr. Dunning that without the use of the gauze Dr. Goelet would have had some failures. The gauze must of necessity bring the kidney higher up than any other operation that has been devised. I do not think that it is wise to slit the capsule, because this is a healthy kidney and the slitting opens the door for infection. The operation is to be commended from that standpoint and also because of its simplicity.

DR. JOHN G. CLARK, Philadelphia—What constitutes a movable kidney? In every abdominal section during the last two years where the incision was of sufficient size, I have introduced my hand, passed it backwards into the loin and, with the patient in the Trendelenburg posture, letting the tips of the fingers lightly rest on the ventral aspect of the kidney, gently drawn it downward to its lowest possible point. During this maneuver an assistant measures the distance traversed by the arm to estimate the range of the kidney. I am certain that too little stress has been laid on the fact that under normal conditions the right kidney may be a very movable organ. I have always looked with considerable scepticism on a simple movable kidney as a factor in the exaggerated symptoms which are sometimes attributed to it. If the mobility is slight and the symptoms are markedly of the gastro-intestinal type, a general enteroptosis is usually the principal factor. In the measurements of the range of mobility of the right kidney I have found that it was seldom under 2 cm., and many times from 3 to 4 cm., and yet the history of the case showed no symptom whatever that could be ascribed to this apparently undue excursus of the kidney. The left kidney seldom has a mobility of more than 2 cm. With these definite anatomic facts before us, it would be well to study a case very closely before we determine that a kidney, the lower pole of which may be distinctly felt below the borders of the floating rib, is a distinct pathologic entity. We are frequently told that movable kidneys are not relieved by abdominal binders. This, I believe, is in a large measure true, but in many instances of so-called movable kidneys, where binders or properly fitted corsets are applied, the patient experiences a considerable if not total relief. This is an apparent paradox, but apparent only, for such cases come under the classification of enteroptosis rather than of true movable kidney. I believe that the classical symptoms of marked gastric indigestion more or less dull or acute pain on the right side, marked respiratory mobility of the kidney, which may be so exaggerated under bimanual palpation as to force the kidney well down toward the pelvic brim or Dietel's crises, must be looked on as coming directly from the undue range of mobility, and that such cases may be considered as favorable for symptomatic relief in the event of a successful suspension or fixation of the kidney. In my opinion there are but three methods of fixation which should be considered: 1. By suture, very much as Dr. Goelet has described. 2. By splitting the capsule, turning it back and using it as a suspensory medium. 3. The use of a rubber tube or gauze as a sling to lightly

draw the kidney up into the wound and hold it there until adhesion has taken place sufficient to retain it in an unmovable position. For more than a year I employed the stitch suggested by Brüdel from his anatomic studies, which is similar to that described in Dr. Goelet's paper. The principle of this suture is that by its triangular introduction it snares, as it were, the connective tissue stroma of the kidney and thus bears more strain than does the simple suture passed directly into the cortex of this organ. I do not believe this suture can be improved on. The only question is the serious one, is it advisable to introduce directly into the pulp of the kidney any suture? I know well that, as a rule, no serious complication follows this procedure, but I believe it would be better and more rational to employ the method suggested by Edebohls. For the last year I have constantly employed the latter, and am so far entirely satisfied, although I have not had sufficient experience to justify me in fully commending this method. The third method has not appealed to me as a satisfactory surgical procedure, although Beyea, Penrose and others have had success with this method. Until I have further evidence my choice of method will be that described by Edebohls.

DR. C. S. BACON, Chicago—Does Dr. Goelet use the subcuticular suture and also drainage?

DR. GOELET—I use the subcuticular suture for closing the skin only.

DR. C. L. BONIFIELD, Cincinnati—Many movable kidneys do not really require an operation. A movable kidney is somewhat like a hernia. The vast majority of hernias in the adult require operation, but I have known cases of inguinal and femoral hernia to disappear when the patient became robust and took on additional flesh, and to recur during or after a long spell of illness. I think the amount of mobility of a kidney depends largely on the amount of perirenal fat. Many of the cases operated on for movable kidney do not require surgical treatment at all, although I do not mean to question Dr. Goelet's cases. I would advise the general practitioner to treat the neurasthenia, the indigestion and the general health of the patient.

DR. D. H. CRAIG, Boston—I have seen a number of cases of movable kidney associated with splanchnoptosis that have suffered materially through the perfectly honest and conscientious efforts of general practitioners who, in trying hard to keep abreast of the times, have prescribed abdominal belts. The belt supports temporarily and possibly benefits the patient for the time being, but only in a certain degree. After the belt has served this purpose the patient is left in a worse condition for operative procedure than before.

DR. A. H. GOELET, New York—One reason why this suture is as strong as it is, and why it will pull the kidney up into its normal position under the rib without tearing out, is that no matter which way you pull on it the traction is in an upward direction parallel to the surface of the kidney and its fibrous capsule and not at a right angle to it. There is one objection to leaving the drain in for more than twenty-four hours. I find that when I remove the drain there is a great deal of accumulated discharge behind it, and if this discharge is allowed to remain there it will get in between the kidney and the structures of the back to which the kidney has been attached and thus interfere with the formation of adhesions. That is, the gauze ceases to be a drain after that time. I laid particular stress on the importance of stripping the colon from the kidney. I believe that is one of the most important points in making a success of the operation, and one of the most frequent causes of failure when it is neglected. Where it is left attached to the kidney, if it does not pull the kidney loose it will drag on it and cause pain and other disagreeable symptoms. I have left the gauze drain out in a number of cases and have had success in every instance. Sometimes I think it is not necessary. When there is very little fatty capsule to get out of the way I frequently leave out the gauze drain and my results have been just as good. As to stripping the fibrous capsule from the kidney, I see no reason for mutilating the kidney in this manner when we can secure fixation just as well and better without doing so. If the detached

fibrous capsule is utilized for fixing the kidney it is invariably fixed too low down. I have had a number of patients come to me after operation by that method by other operators, and they were still suffering, though the kidney was fixed, even worse than before the operation. I therefore oppose that method of securing fixation of the kidney. I see no reason for considering this a serious operation, as Dr. Clark contends it is. If I can do 159 nephropexies without a death—and others may have the same results if they adopt the same method—it can not be a very serious operation. My sutures do not penetrate the parenchyma. The needle may wound it in penetrating beneath the fibrous capsule, but that is insignificant and does no harm. Formerly, when a patient would not consent to an operation I yielded and ordered a belt. But now I never prescribe a belt before operation if I can avoid it. In the first place it delays the operation because the patient gets temporary relief, but she invariably comes back worse than before, and the operation becomes a necessity sooner or later. Two years ago I was consulted by a lady with a prolapsed kidney that was causing symptoms. She felt obliged to postpone operation and I prescribed a belt. She returned a little later saying that she felt so well that she would not have an operation done. Two years afterward she came back to me for another trouble. I asked her to let me examine the kidney, which she said was giving her no inconvenience. I found it fixed in an abnormal position as the result of perinephritic inflammation caused by irritation from the belt, and examination of the urine showed a pyelonephritis, which did not exist at the time of her first visit. This is an illustration of what the belt will do, and emphasizes the necessity of early operation to correct the malposition. The corset, or any other form of external support, is to be placed in the same category with belts and is open to the same objection.

INHIBITED TUBAL PERISTALSIS: A CAUSE OF ECTOPIC GESTATION.*

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In submitting this contribution for your consideration, its brevity may be urged as a virtue. A great deal has been written concerning the etiology of ectopic gestation, some of which has approached demonstration, more has been speculative, but certainly much has been done toward the solution of many of the attending phenomena.

The function of the ciliated epithelium of the oviducts has been made much of as the chief, if not the sole, motive force in the transportation of the ovum into the uterine cavity. Building on this assumption Tait and others have attempted to show that in the destruction of the cilia by the inflammatory diseases of the oviducts, the function of the tubes is destroyed and the resulting inertia is to be regarded as the prime factor in the production of tubal pregnancy.

According to Lilienthal, Williams and others, the most frequent site of the chorionic attachment is at the isthmus, near the uterine horn, which would make it appear that if the cilia are really the essential factors of the transportation apparatus the destructive force of the inflammation must have spent itself uniformly in the uterine end of the tube, which is not in accordance with the observed facts in the history of salpingitis. There are many instances of tubal pregnancy in which the cilia appear to be present in normal condition and abundance. In some cases anatomic peculiarities, such as sacculations

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

and diverticula, have been demonstrated and are apparently the determining cause of the abnormal location of the embryo. Aside from these purely mechanical and obstructive causes there are other pathologic conditions of the tubes resulting from inflammation which are entirely overlooked by the followers of Tait, and which are of a quality to be justly accredited as being direct causative agents in the production of extrauterine pregnancy.

Again, it is well known that a great many cases occur in tubes giving no history of disease and in which no local pathology can be demonstrated, so that the conclusion is that ectopic pregnancies occur in some instances in perfectly healthy tubes. From these considerations which might be presented in a more elaborate manner, I think we may justly question the accepted position of the ciliary motion as the force which paddles the ovum down the tubal canal into the uterine cavity, and that we are compelled to seek some other explanation of the performance of this function.

The fallopian tube is in a certain sense an excretory canal and is similar in its anatomy to the ureter, the vermiform appendix, gall ducts and the intestine. Like them, it is provided with longitudinal and circular muscles. In all of these organs we have long since assigned an important rôle to these ingeniously arranged muscular fibers. The intestine, the appendix, the gall duct and the ureter are known to engage in an active peristalsis when sufficiently stimulated by the presence of materials within the canal, which it is their function to excrete. There is apparently every reason to suppose that the similar function of the oviducts is performed in identically the same manner, although the peristalsis of the tube when admitted at all has been referred to as a very minor and insignificant attribute.

I believe that for the performance of their function, that is, the physiologic emptying of all mucomuscular tubes, Nature has provided a general method, viz., peristalsis. This action when not interfered with by pathologic conditions or untoward influences operating through the nervous system, is at all times efficient and does not depend on an auxiliary force for the successful performance of its function. That ciliated epithelium does not invariably possess the function of a propelling force is evident by its presence in the lateral ventricles of the brain. There is a ciliary wave toward the body outlet in all mucous surfaces which have this peculiar epithelium, but it seems to be for defensive purposes.

In the fallopian tube I believe the cilia are provided for another essential and an entirely different purpose. The ovum is a most perishable structure, one whose delicate walls could not withstand the pressure of contracting mucous surfaces brought into apposition through the agency of peristaltic force. Therefore, in order that this force may not prove fatal to the ovum, it is necessary that some provision be made by which it shall be protected from this peristaltic pressure in its journey to the uterine cavity. Now, the arrangement of the cilia provides a bed of velvet on the pile of which the hope of the race safely rests in passage. The pressure of the visitor through the delicate ciliary bed conveys the signal to the presiding nerve center and the rhythmical muscular contractions are at once inaugurated and the ovum is gently rolled along into the uterine cavity. If we admit that peristalsis does play a very important part in the transportation of the ovum, then certainly the numerous factors which occasionally operate to produce paralysis of function in similar structures may fairly be regarded as causes of tubal gestation.

We are familiar with the serious results of inflammatory adhesions affecting the intestines and the appendix, not only in the mechanical constrictions, but also the interference with peristalsis from the abnormal fixation, and it is extremely probable that similar affections of the tubes are equally potent to work disastrous interference of function. The reflexes must not be ignored in this consideration. When an impacted calculus in the urethra causes such evidence of bowel obstruction that operation is determined on, it is not unreasonable to suppose that the function of the tubes may be likewise affected in a similar manner and degree.

Psychical effects are also of noteworthy importance. We are familiar with the cases in which the menstrual function has been immediately and permanently abolished through the mysterious influence of some profound and sudden revulsion of feeling, some horrible experience or great shock, etc. The hope or fear of pregnancy not infrequently generates the subjective symptoms and many of the physical signs of that condition. Evidence is not lacking to sustain the belief that similar agencies produce in the tubes results of a like quality to those observed in similar structures which offer more abundant opportunities for demonstration.

A very suggestive case, recently referred to me by Dr. Patten of Morristown, Ind., is worthy of notice:

Mrs. B., aged 32, the mother of one child, 4 years of age; no history of pelvic disease could be ascertained; during her pregnancy no unusual symptoms had been noted other than some slight intestinal disturbances; since her confinement, however, she had experienced rather frequent attacks of a colicky pain in the umbilical region.

Feb. 19, 1903, I was called to operate on her for a painful, elongated tumor of the left lower abdomen. Her last menstruation had occurred one month previously in a normal manner. The only symptom complained of was the rather sharp and persistent pain in the left side. A laparotomy proved the tumor to be the pregnant left fallopian tube distended to the size of a sausage roll and firmly attached at the fimbriated extremity to the transverse colon. The uterus was apparently suspended in this manner, the fundus inclined toward the right side, the left horn occupying the highest point near the median line.

I can see but one explanation of this peculiar malposition of the tube. It could not possibly have been the result of the ordinary chance occurrences, but was undoubtedly carried upward with the development of the pregnant uterus (possibly a pregnant left horn) becoming firmly adherent to the colon through the agency of an unrecognized inflammation, and, as the uterus receded following delivery, this rare relationship was maintained. The attachment to the gut was of a very firm and intimate character, requiring the most careful dissection in its separation. As a result of this firm attachment the tube was constantly stretched between two practically fixed points, the weight of the uterus continually taking up whatever slack the colon was disposed to grant. Under these circumstances there could scarcely be any possibility of tubal peristalsis, and when pregnancy occurred within the inert tube there was no force present capable of propelling the ovum down into the uterine cavity, and the chorionic attachment near the fimbriated extremity of the tube was the result.

As the tubes both appeared to be anatomically normal, it seems to me that the logical conclusion is that the abnormal location of the gestation sac was due to the inhibition of tubal peristalsis. I will also suggest that the inflammatory thickening of tube walls, and also the splint-like action of adhesions, may so interfere with

peristalsis that tubal pregnancy may result, regardless of the condition of the cilia.

There is undoubtedly a lack of positive knowledge concerning the pathology of ectopic gestation, and this presentation of an unusual phase of the subject is made with the hope that it may in some slight degree stimulate further investigation relative to this important matter.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—We can not dismiss the subject on the ground that we know nothing about it, for the reason that we know that there are conditions which are at least conducive to the development of an ectopic gestation, such as crippled and diseased tubes, malposition, loss of cilia and thickening of the tube by endometrial deposits, etc. Dr. Pfaff is very logical, but I do not believe he has settled the question.

DR. HUGO EHRENFEST, St. Louis—The theory advanced by the essayist is very interesting and very similar to the hypothesis advanced some time ago by Oliver, an English gynecologist. He also contends that the lack of peristalsis in the tube has much to do with an abnormal lodgement of the ovum in the tube. He suggests a connection between absence of sexual feeling and lack of peristalsis in the tube. During the sexual orgasm the uterus and, in all probability, the tubes contrast. Oliver believes that in women who lack sexual feeling entirely there may be a lack of peristalsis in the tubes. I think, however, that a paper published about a year ago by Opitz solves the question of the etiology of ectopic pregnancy satisfactorily. Almost all the investigators made the place of implantation of the ovum the object of microscopic examination. Opitz limited his investigations to that part of the tube lying between the site of implantation and the uterus itself. He examined 23 pregnant tubes, cutting the desired portion of the tube into serial sections, and in every one he found changes due to inflammatory processes. Of course, the changes were different in degree, but he found common to almost all the tubes a thickening of the mucous membrane, a partial destruction of the epithelium, and that very many of the adjoining folds were agglutinated at their edges forming blind hollows or sacs. That would give us a very plausible idea for the occurrence of tubal pregnancy. There are cases on record where the abnormal implantation of the ovum was explained by the fact that there was a congenital diverticulum of the lumen of the tube. Such a malformation of the tube, however, is very rare. If the formation of such blind alleys really is an almost typical result of inflammatory processes in the tubes, as suggested by Opitz, it would seem natural that ova should often be caught in these sacs on their way from the ovary to the uterus.

DR. G. BETTON MASSEY, Philadelphia—Several years ago, by inquiry in a number of these cases, I learned that a large proportion of women suffering from ectopic pregnancy had some time previously been subjected to forcible dilatation of the cervix. I do not mean to say that the dilatation caused the subsequent extrauterine pregnancy, although it might have done so. But a more probable explanation is that the dilatation was done for a condition which did not prevent the consequence of that condition. The dysmenorrhea being really due to a mucopurulent catarrh the dilatation was not a success. This subject of forcible dilatation as a cause of extrauterine pregnancy deserves further investigation. Abnormalities of pelvic functions should be considered more as a physiologic deviation, and not as though the pelvic organs were a non-vital mechanism which could be patched up every time the mechanism was out of order.

DR. J. H. CARSTENS, Detroit—In nearly all cases of ectopic gestation one of Nature's methods is to cause adhesion of the tube somewhere to prevent a so-called tubal abortion; thus the fetus is held in the tube and hemorrhage prevented, and if the tube distends it does not cause the passage of the fetus and the placenta out of the end of the tube, but in the direction of least resistance, that is, in the broad ligament. With hemorrhage in the broad ligament there is less danger. That

generally subsides on account of the dense peritoneum covering which is one of Nature's methods of preventing death. We find adhesions in every case, but nearly all are recent. The tube is adherent to the rectum, sides of the pelvis or bladder or anywhere, showing that there has been an old adhesion; some old lesion that has not been absorbed and has probably caused a twisting of the tube, preventing its physiologic action and thus inducing the ectopic gestation. This contribution adds one point to the complex and diversified etiologic factors that produce extrauterine pregnancy.

DR. F. F. LAWRENCE, Columbus, Ohio—Interstitial extrauterine pregnancies occur in the uterine portion of the tube, and also in the fimbriæ ovarica. What effect can peristalsis have on these parts? Again, nearly all have noticed, in operations for salpingitis, constricting bands all along the tube at irregular points which practically occlude the tube, so as to prevent the passage of spermatozoa or the unfructified ovum. Several of these bands frequently occur on a tube that otherwise has no evidence of serious inflammation. Are not these partial or almost complete bands an exciting factor? Has any one had a case of ectopic gestation in which there was not found on close questioning a history of tubal trouble prior to the pregnancy? I have yet to find a case in which there was not a distinct history of tubal trouble, especially premenstrual pain or irregular menstruation. Every woman who is or has been the subject of tubal inflammation, no matter of what variety, is in danger of tubal pregnancy.

DR. C. O. THIENHAUS, Milwaukee—I believe there are many causes for this malformation. The idea has been advanced that all cases of extrauterine pregnancy show previous gonorrheic infection of the appendages. It is true that careful examination of many cases will reveal that a previous inflammation existed in the lower abdomen. In other cases we find that the patient has one child and after a period of three to five years, during which she showed at one time symptoms of tubal inflammation, she becomes pregnant in the tube. But there are other cases. I found in one case a cyst in the broad ligament as large as a man's fist, the tube on the right side was hanging over the cyst containing on its fimbriated end, which was adherent in the depth of Douglas' pouch, the extrauterine gestation. In another case I found a dermoid cyst of the ovary as large as a man's fist, which was probably the cause of the extrauterine pregnancy. The appendix in this case was found in a state of chronic inflammation and adherent to the gestation sac. Diverticula in the tube may be another cause. It is essential not to forget that in all cases of tubal pregnancy that part of the mucous membrane of the tube on which the ovulum is implanted must have been normal at the time of nidation.

DR. A. PALMER DUDLEY, New York—Many women become pregnant who have appendages very much adherent. It is not a question of imperfection of the tube. In my judgment the cilia play a larger rôle than has been accredited to them. But we must not lose sight of the fact that the dynamics of the abdominal cavity enter in here in the matter of the conduction of the ovum into the uterine cavity, as will be better illustrated by the records of cases where a hydrosalpinx is drained through the uterus. The constant diaphragmatic action of the pelvic floor; the action of the diaphragm and intestines plays an important rôle in the passage of the ovum from the ovary to the uterus. The most important question, I think, is the patency of the tube, no matter whether the lining is ciliated or not; it is a vent. As an illustration that the tube may be occluded and pregnancy take place is a case recorded by Bandl, where a vaginal hysterectomy was made and the uterine extremity of the tubes brought down into the vaginal vault. This woman became impregnated and had a tubal pregnancy of two and a half months, which aborted into the vagina. In my judgment the question of patency of the tubes is the all-important one, and then the dynamics that assist in carrying the ovum to the uterus.

DR. T. J. BEATTIE, Kansas City—I believe that every case of ectopic pregnancy would show a history of preceding trouble in the tube in some portion of the pelvis. About a

year ago, in a ruptured tubal pregnancy, I found a small cyst in the broad ligament.

DR. O. G. PFAFF, Indianapolis—As we all seem to think, there is in most of these cases a pre-existing tubal disease, but I have found pregnancies in tubes that were absolutely normal, although this is probably rare. In reply to Dr. Lawrence, the uterine end of the tube is just the point where we get most of our tubal pregnancies. The object of the paper was to get away from the purely mechanic causes of tubal gestation and to consider whether there is not some explanation to be found in the interruption of tubal peristalsis.

CONSERVATIVE SURGERY OF THE SCLEROTIC OVARY.*

HUGO O. PANTZER, M.D.
INDIANAPOLIS.

The real risk to life appertaining to the early peritoneal surgery, in the past, incurred and justified very radical measures. The comparative safety of the modern methods of operating no longer sanction special indications and rules for this field of surgery. Utmost conservatism is the essential characteristic of the principles and practices of general surgery. To-day these must apply to, and, fortunately, quite generally prevail in, gynecic surgery. Efforts along this line show eminent successes, albeit many disappointments as yet attend such a course. Its limitations require as yet greater definition. The notable gratifying result obtained in the following case has offset, in the writer's experience, many less satisfactory and even disappointing results from conservative operative work persisted in through many years. Its narration here, it is hoped, may have it exert its stimulating effect on the efforts of those likewise engaged.

Cirrhotic ovaries at this time, I believe, are quite generally accepted to afford the indication for their immediate removal. My experience is not ample enough to draw deductions from. The case about to be recited pertains to cirrhosis without decrease in size of the ovaries. Pertaining to sclerotic ovaries with shrinkage of the organs, the writer has no case of resection that was followed by pregnancy. However, it seems warranted from the subjective relief afforded in some instances and from the unmistakable evidences in some cases of an attempt on the part of Nature to restore the already lost function, that even in the shrunken ovary the morbid process can be arrested by timely conservative surgical effort. The writer hopes soon to report his experiences with such efforts.

The extensive and exhaustive consideration of this subject on this occasion by our worthy president relieves the writer from entering into a detailed consideration of the mooted points in connection with the following case:

History.—Mrs. C. L. F., Kidley, Ill., aged 25. Married four years, desirous of having offspring, no conception. First menstruation at 13. Menstruation irregular, commonly retarded, is always painful before and during flow. Following a heavy lift at 18 patient suffered constantly with pain in left inguinal region. At periods she bloats, and has sacral, pelvic, occipital and frontal pain. Poor appetite, depression and growing emaciation, weakness and suffering mark her complaints. She has occasional transient attacks of bladder irritability and suffers from constipation.

Status præsens.—Patient is a small, lean, weakly woman. Floating tenth ribs, both kidneys movable. Thin, relaxed ab-

dominal walls, flat miserable thorax. Uterus in retroflexion, somewhat fixed by contracted left broad ligament. Left ovary imprisoned by adhesions, tender, enlarged. Right ovary normal size. Slight contraction of internal os uteri.

Diagnosis.—Retroflexed uterus. Prolapsed and enlarged adherent left ovary.

Operation.—Deaconess Hospital, Jan. 16, 1902. Internal os was dilated. No curettage. Median celiotomy. Tube and ovary on left side were massed by inflammatory adhesions. No pus was found. Left ovary had cyst the size of filbert at one pole. Both ovaries were densely and thickly sclerotic, rather larger than normal size. Left ovary was removed entirely. A narrow wedge was cut from the entire length of the convex border of the right ovary. This displayed a ledge of sclerotic tissue one-eighth of an inch and more in thickness, revealing no evidence of normal ovarian stroma in this area. The ovary in its deeper parts, like in the superficial parts, bled very slightly, but in contrast with the latter revealed small islets of what seemed normal stroma. Indeed, this was so little apparent as to, in my estimate, include very little promise. However, there had been menstrual flow which could not be discountenanced. The surface of the ovary was pared in wedge form, the base of the wedge being at the border. The central slit was sewed with interrupted catgut sutures. It was striking that there was practically no bleeding. The uterus was ventrosuspended by its anterior surface near the fundus.

Patient made an uneventful surgical recovery, though her strength was slow to grow. Her feebleness preceding her operation seemed accentuated at this time.

Results.—Patient reported for examination two months later. There was some general improvement all along the line, though general conditions were still very unsatisfactory. Menstruation had occurred regularly, with lessened local and reflex suffering. Hygiene, iron, ergotin, strychnia and aloes were prescribed.

Patient reported again July 17, 1902. There was great general improvement, physical and psychical. She walked like an entirely different woman. She had missed her flow and was anxious about this. She complains of some pain through the sacral and lumbar region. Bladder had continued occasionally irritable, more so latterly.

Examination.—Uterus is found in good position, enlarged, softened, not tender. Vaginal mucosa softened and edematous, of bluish color. Right ovary to touch feels quite normal as to consistency, though obviously small. There are no evidences of ovarian adhesions.

Diagnosis.—Pregnancy.

March 17, 1903, patient writes me of her happy confinement with a fine nine-pound boy two weeks previously, and expresses her and her husband's unbounded happiness over the event.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—Dr. Pantzer's innovation worked well in this case. But he himself raises the question whether this method is commendable, viz., to leave such a large raw surface on the ovary. I have always felt it safer to cover all raw surfaces of the ovary. I think Dr. Pantzer's experience was unique in that he had no hemorrhage. I have never been able to do so much cutting on the ovary as he did without experiencing considerable difficulty in arresting hemorrhage.

DR. A. PALMER DUDLEY, New York—I do not question that Dr. Pantzer left the ovary an open wound. He said he closed the wound by a circular suture. If he did that there was no necessity of covering it with peritoneum to get good results. Cirrhosis of the ovary is due to obstruction of the circulation. His case was complicated by adhesions and dislocations, and one ovary contained a cyst. I have operated on very many of these cases and have seldom found a true cirrhotic ovary fruitful after any form of treatment. I think the relief the ovary obtains from this method of treatment was not due solely to the ovary itself, but to the repair of pathologic conditions that accompanied the cirrhosis and the ovary also

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

derives benefit from the development of a new circulation. It is wise not to cut the ovary crosswise. I never operate on an ovary to save any portion by incising it crosswise, as we in that way section the nerve supply of the ovary and do material injury. If it is necessary to remove portions of the ovary it should be done along the upper horizontal surface of the ovary; one can take out almost any quantity of tissue and still have the remaining portion act because the ova are on the outer surface of the ovary although some follicles are found as low as the hilum. Unless operated on in the manner described by Dr. Pantzer the circulation is renewed through different channels, the uterus is restored to its position, and the ovary after a time receives new life. The thickened tissue will undergo fatty degeneration and in that way the ovary is restored to a normal condition. I am so situated in the Harlem Hospital that I can do anything I please without question. During the past winter I have been experimenting on tuberculosis of the testicle. I find that I can split the testicle in half and unite the wound with fine silk suture, sweep out the tubercular deposit, touch it with formalin and carbolic acid, and have a distinct recovery without rise of temperature. So the work described by Dr. Pantzer is only another evidence of how much work can be done on the uterine appendages of women.

DR. H. O. PANTZER—The method of operating in this case is open to the objection that raw surfaces were left involving the possibility of intestinal adhesions. This risk is unavoidable here. A close search subsequently for evidence of adhesions in this case failed to detect any. Perhaps the risk from a raw surface is magnified in our minds. In days past when adhesions were frequent, non-absorbable sutures were generally used, and undoubtedly often were the cause of adhesions. Permanent adhesions giving trouble nowadays are certainly rare. In the class of cases to which this belongs the family interest at stake is great and seems to warrant taking an unusual risk. In the light of the result obtained in the case reported the procedure may be justified. I have done conservative work on the ovary many years. Nine of my cases were followed by one or more pregnancies. I have attempted conservatism where sclerosis is associated with shrinkage of the ovary, so far with no more result than to produce the evidence of menstrual molimen in cases which had been without this and without any flow for months, and even several years. This result would seem to indicate the possibility of obtaining definite results if operation is early undertaken. Waldeyer confines the area in which ova are found to a small rim one-eighth of an inch in thickness adjacent to the greater part of the outer surface of the ovary. This does not tally with microscopic evidence often found where the internal tissues about the hilus disclose ova. Clinically I have had the opposite evidence in two cases, where all but the parts of the ovaries about the hilus were removed and yet pregnancy followed.

AN OLD-TIME QUACK EYE DOCTOR,

THE CHEVALIER JOHN TAYLOR.

BROWN PUSEY, M.D.

CHICAGO.

Indexed under the heading "Charlatans," in the magnificent library of ophthalmologic literature of Dr. Casey Wood, there is to be found "The Life and Extraordinary History of the Chevalier, John Taylor, Ophthalmiator, Pontifical, Imperial and Royal; in two volumes; written from authentic materials and published by his son, John Taylor, Oculist; London, 1761." In looking this book over, I happened on Chapter V of the second volume, which is an oration said to have been delivered in the streets of Oxford. I quote this chapter extensively, and when one has read it, I think no apology from me will be necessary for calling attention to it; and when one realizes that this oration is said to have been delivered in the public streets, and after Taylor had sent "his harbingers before him" to deliver his hand bills, I believe the desire is natural to inquire as to what manner of man this ancient quack was.

"The Eye," says the Chevalier Taylor, "that most amazing, that stupendous, that comprehending, that incomprehensible, that miraculous Organ, the Eye, is the Proteus of the Passions, the Herald of the Mind, the Interpreter of the Heart, and the Window of the Soul. The Eye has Dominion over all Things. The World was made for the Eye and the Eye for the World.

"*Let there be Light*, that first Fiat of the Almighty, and there was Light. For whose Use, I pray? For the Use of Man, for the Use of the Eye. The Angels wanted it not. The Sun was kindled, the Stars were lighted up; the grey Dawn and the Milky way, the Constellations, the Morning Planets, and all the bright Chandeliers over Head, were all hung out, rank and file, to minister to this little Speck, this Peep-hole of the Mind, this Inlet of the Soul, this Surveyor of the Universe, this Lord of all Things, the Eye.

"The Eye is the Husband of the Soul; through it she conceives, becomes pregnant, and brings forth Knowledge.

"Amazing how such large Objects find a Passage through so small an Aperture.

"The Eye is indefatigable. The Eye is an angelic Faculty. The Eye, in this Respect, is a Female. The Eye is never tired of feeling; that is, of taking in, assimilating, and enjoying all Nature's Vigor.

"All Nature is but one great Act of Love. The material and immaterial World conceive and bring forth together. The other Senses are the Soul's Gallants, such as Hearing, Feeling, Smelling, and so forth, with which she intrigues a Moment or two, and then returns to her lawful Husband, the Eye.

"The Children got between the Soul and the Eye, are legitimate Nature's genuine Issue; some of which can only with herself expire; the Brats of the other Senses die as soon as born.

"In corporal Generation too, how powerful is the Eye! It is the Signal of the Affections; and with a single Glance can proclaim the Pulsations of the Heart. It is the Lightning of Desire, and the Loadstone of the Soul; whose magic Effluvia inchant the Imagination, attract the Coalitions, irritate the Muscles, stimulate the Nerves, and brace up the whole Apparatus of Propagation.

"The green Mantle of the Earth, the azure Night-gown of the Sky studded so thick with Gold, the Trees, the Flowers, and the Gardens, the Gems, the Carbuncles, and even the Diamonds themselves, begot by Nature in the secret Womb of the Earth, are all brought forth by the Midwife Industry, are all polished to the purest Ray, to entertain, to regale the Ravished Eye.

"We owe the Ladies to the Eye, those Transcripts of the Angels, those Specimens of future Bliss, those Fountains of Joy, those Dainties of Desire, those Cordials of all human Care, who people the Earth with their Energy, and the Sky with Inhabitants; these Patterns of Purity and Love, these Master Pieces, these lucky Hits of Heaven, are the finest Regale for the Eye of Man, where it feasts on the Ruby of the Lips, the Vermillion of the Cheek, the Snow of the Forehead, and the Cherub in the Eye; and yet even these are but the Signs, the Invitations held out of that extatic, that soul absorbing—But Language is too weak.

"This is the greatest Good the Eye can give us. Without the Eye what were all this amazing World of Charms? a mere Mouthful of Moon-shine, a Sheet of blank Paper, a Candle in the Desert; for my Lady is no more than Joan in the dark.

"What an Orator is the Eye! that Short-Hand, that Cypher of the Soul, whose single Glance conveys a Volume.

"The Tongue is an Upstart, a tedious Intruder, a limited Prate-roast; who speaks the Language of a single Kingdom or County perhaps, and that but poorly too. Words are an artificial, tedious, contracted, obscure and imperfect Commerce, a Kind of *Hocus Pocus*, a juggling Compact, agreed upon by a few and understood by fewer still; a Messenger sent a round-about Way to the Understanding through a certain, dirty, winding Canal; where a little Wax can stop its Career, or a paltry Fiber unbraced, destroy the whole Business.

"As far as the bungling Productions of human hands are inferior to the exquisite Works of Nature, so far is the Faculty of the Eye above that of the Tongue. How many Ages old was the Creation before that Babel, that Jargon of Sounds called Language, was sent among Men as a Curse?

"The Eye is the Orator of Nature, and talks the Language of the Universe, of all beneath the Moon, of all above it: It talks the Language of Heaven too; it renders useless all Sounds except the tender Moanings of Lovers, those turtle Cooings of Desire, those nameless Throbbings of Fruition; these, these are the genuine Dictates of the broken Raptures

of the Soul, which she scorns to shape into Words; nor can she lose Time in so base a Labor.

"The Eye is the quick Flash, the instant Lightning of the Piece. Language is the Shot that loiters after with much Noise, indeed, but seldom hits the Mark.

"O ye Sons and Daughters of Minerva, ye Children of Wisdom, ye Offspring of Oxford, how precious is the Eye! . . . Of what importance is its Office? How deserving is the Art that keeps its Springs in Order, and preserves the Interchange of Office betwixt the Works of Nature and the Soul! Mind and Matter are kept in constant Traffic by the Eye.

"The three mortal Foes to Sight (my learned Sons of Wisdom) are the Glaucoma, the Cataract, and the Gutta Serena; with these I wage eternal War. These Auxiliaries of ancient Night, that would restore her gloomy Reign, and bring back Chaos to the World once more.

"My Art, O ye Sons of Oxford, my Art is the Ally of Heaven itself, and aids even the Almighty, obeying still, and still performing the omnipotent Behest, *Let there be Light.*"

Fortunately, it is possible to learn something of the Chevalier Taylor and his family—a family which becomes more interesting when it is known that the Chevalier's father, as well as his son and two grandsons, were physicians. Indeed, the son and two grandsons, probably influenced by the worldly success of the Chevalier, followed in his footsteps and waged war against the "Auxiliaries of ancient Night."

Our authentic information of the Taylors comes from the writings of the Chevalier and his grandson, John Taylor, the third. We have from the pen of the Chevalier, "The History of the Travels and Adventures of the Chevalier John Taylor," London, 1761, and from the grandson, "Records of My Life," by John Taylor, Esquire, in two volumes, London, 1832.

Mentally the Taylor stock evidently was good stock. The sire of our oculists was a man of ability, and was a surgeon of prominence in Norwich, England. We are told by one of his colleagues that he was highly respected in his private as well as in his professional character. In the light of the history of the son, the Chevalier, a statement of one of the senior Taylor's friends becomes interesting. This statement was to the effect that the old gentleman had so grave and dignified an aspect and demeanor that the superstitious among his neighbors imputed supernatural knowledge to him, and on any disasters or losses consulted him as a conjuror. It is a well-recognized fact that the latent energy in a lie is enormous, and here we have the intimation that the same is the case in other forms of imposition. Maybe the tricks of the sire as a conjuror was the beginning of the quackish proclivities that later were so highly developed in his descendant.

The Chevalier Taylor was born in Norwich, England. In his own memoirs he does not give the date of his birth, nor does he say much of his early life; in another history of him we are told that he was born in 1703. He does, however, suggest the idea that the place of his birth may one day be judged worthy of the notice of posterity. Of his birth and early days the comments to be found in another place are interesting. One finds the statement: "He no sooner began to distinguish objects than he expressed the greatest aversion to all spots, either on the garments or countenances of those to whom he came near. Patches worn on the face being then in fashion, he often scratched them off and sometimes brought the blood along with them; nay, even then he put some eyes in danger!" Certain it is that in the birth of this man there was the beginning of the life of one of the master quacks.

The methods now in vogue among quack eye doctors seem to be used by all of them. In their advertisements they speak of "new system," "cross-eyes cured without the knife," "dissolvment treatment," or "absorption method," "optic nerve diseases." They advertise that they have written books on "Eye Diseases Cured Without Surgery," "Cross-Eyes," "Cataracts." "Eye Tests," etc. These books are usually described as a "Brief Treatise on the Application of His Remarkable Discoveries." In their advertising pamphlets—their "books"—they tell of their extensive travels and of the great opportunities they have had for the study of the conditions they want to treat; they publish the names of people whom they claim to have cured of awful complaints (particularly names

of people in public positions, e. g., a United States Senator), and they publish pictures of conditions which they claim to have cured (these pictures frequently are taken from some standard work, but, of course, are claimed as original). The great standby of the modern quack, as we all know, is the "new system of curing cataract by absorption" and "cross-eyes without the knife."

Our great quack's methods were the same as those in vogue now. He had the new system of curing cross-eyes and cataracts, he published books describing his great opportunities, and giving the names of his patrons and giving pictures of the conditions that he cured. But his was a master's hand. In comparison the quacks of the present day are a cheap lot and they are not to be mentioned in the same class with this old faker.

Taylor's advertisement on settling in England after he became an old man is the book we before spoke of, "The History of the Travels and Adventures of the Chevalier John Taylor, Ophthalmiator, Pontifical, Imperial and Royal." Even the binding of these books—the history is published in three volumes—shows the superiority of his methods over those of the present-day quacks. The volumes are bound in handsome leather with gilt edges. The modern quack puts out his books with paper bindings and his picture on the back. (By the way, these pictures usually show a bald-headed, elderly man, with whiskers and a general expression which may be taken as indicating kindness and knowledge and offer a terrible proof of that truism that appearances may be deceptive.)

The modern quack's pamphlet opens with interviews taken from the daily papers. Not so the Chevalier's history. The three volumes are dedicated respectively to his son, to David Garrick, and to the Merchants of London. The very first paragraph of his preface is interesting and shows his shrewdness. "Notwithstanding, by the title of this work my readers are prepared to be chiefly acquainted with numberless extraordinary adventures of my-life, I flatter myself that it will not be displeasing if I here observe that I have not forgot the object most worthy of my attention, I mean the profession in which I have so long labored to be distinguished." The key-note of his book is found here; the book is for the purpose of impressing the reader with the author's professional greatness, while he is led to believe that it is a record of travel and adventure. The second volume of the history at my command has an interesting bit of evidence of the Chevalier's success in this particular in the book plate of some collector, which may be taken as indicating that the volumes at some time were considered worthy of such a mark. No bibliophile of the present would so mark the book of a modern quack.

It would not be profitable to follow far the adventures of the Chevalier. According to his statement he traveled through England, Ireland and Scotland from 1727 to March, 1734; from that time to November, 1735, he was in Paris and the towns of France, then to England for a few months, but back to Paris in 1736 and 1737; during 1738 and 1739 he spent the time in Spain; then to Lisbon and the towns of Portugal until 1742; then to England, Ireland and Scotland, where he remained until February, 1747; then to Germany during 1748, '49, '50, '51; then to Sweden, Russia and Germany until 1755, when in January he went to Italy, where he remained until January, 1757; then to Austria, Germany and Holland; then in January, 1759, to Scotland and through the towns of that country and Ireland and back to London in 1761, where, according to his book, he was ready for business.

In the journey, of course, he had experiences worthy of relating, but with few exceptions his stories are unentertaining and tiresome. In these travels he learned the various languages, and he calls attention to the necessity for one like himself to know the languages of the different peoples.

As was said, it was evidently his method of advertising to publish books written in the different languages of the various countries that he visited, and his travels may be traced by these books. In his list of books written by himself he claims to have published forty-five. One of his favorite titles is "Mechanism of the Eye," which he published in English in 1727, in French in 1737, and in Spanish in 1738.

The year 1743 found him again in England, where he published a "Dissertation on a very Extraordinary Case Under the Care of the Chevalier Taylor." Among his publications was "An Accurate Description of 243 Different Diseases to Which the Eye and Eyelids are Exposed," which first appeared in 1747. He announces this same title in his list of publications as a new book in High Dutch, in 1751, and again the same title in 1771. A copy of this work fortunately is in the possession of Dr. Wood. One of the striking features about it is the handsome binding—just as we would expect from the "Chevalier." The drawings are crude and, at least from our point of view, are worthless, but certainly even now would attract the attention of the untrained observer. We have in the particular volume at my command a singular bit of testimony bearing out this latter suggestion. This volume, in which, by the way, the text is in both German and Latin, in its career has been in the hands of a layman—as was no doubt according to the original plans of the author—who presented it to a relation, an ophthalmologist, with the letter from which the following is copied:

"If it has intrinsic value, so much the better; if not, keep it lying around where your patients can see it. It looks so learned you can without hesitation charge them in two languages."

It has been intimated that Taylor was a successful quack in a worldly way. If his book may be believed he was very successful. Good evidence of this is shown in the letters warrant from the potentates of the countries that he visited. These letters are published as foot notes in the first volume of his "History"—evidently so placed that he who runs may read. The first one of these letters published is from Pope Benedict XIV, who appointed Taylor Ophthalmiotor Pontifical. He was appointed oculist to George II, King of England, and he received similar appointments from Augustus III, King of Poland, Frederick V, King of Denmark and Norway, Adolphus Frederick, King of Sweden, and many other lesser lights. In the list of famous people whom he treated are princes and princesses, dukes and duchesses. He announces that in the thirty years of travel he had treated over 80,000 patients. He speaks of one of his important cases in the person of a man who seems nearer to us than the princes and dukes and the like—of Handel, of whom he says: "I once thought to have had the same success, having all circumstances in his favor, motions of the pupil, light, etc., but on drawing the curtain we found the bottom defective."

It is hardly necessary for us to call attention to the fact that the Chevalier was a knave. This is abundantly shown in all of his career. In a few places he is honest enough to point this fact out clearly, as, for example, where he relates the story of his preparing to marry a dying old woman for her money, and how the plan failed when the fact was exposed that he already had a wife.

The Chevalier, always thrifty, pursued one plan when he finally located in England, which the modern quacks do not use, and which appears to have advantages. This plan is brought out in a notice to the reader in the back of the third volume of his "History." He calls attention to the great suffering of the poor in England from eye diseases, and he suggests to the prosperous of the nation that each subscribe two guineas yearly, and that all who do this are entitled to send during the whole year the poor thus afflicted to the Chevalier's son's house in Hatton Garden, where the Chevalier himself will gladly assist.

And now we come to the winter of this charlatan's discontent. The old man evidently planned to finish his days in London, where he proposed practicing with his son, who had become an oculist and a successful one, as is indicated by the fact that he was oculist to the king. Probably the old man had become fond of his grandchildren, as we hear of him playing in particularly high spirits with John Taylor, third, when he was an infant. But his plans miscarried, and he did not die at home at last. Rather a note in the autobiography of his grandson—the one who became oculist to George III—tells us that he died abroad.

And we have to relate that his grandson, in his "Records of

My Life," deals this master quack a great blow, for he says that the "Life and Extraordinary History of the Chevalier John Taylor" was not written by his son, but was really written by Mr. Henry Jones, a literary hack of the olden days, partly from the recollection of notes once in the possession of the Chevalier's son, but "almost wholly of his own invention." In this case, the great oration at Oxford was probably not made at all by the "Chevalier," and taking this honor away, little is left of him except of unsavory memory.

New Instrument.

A NEW AND SIMPLE DEMONSTRATION OPHTHALMOSCOPE.*

GEORGE F. SUKER, M.D.
CHICAGO.

This little device which I have constructed, and which is to be attached to the indirect ophthalmoscope as made by the

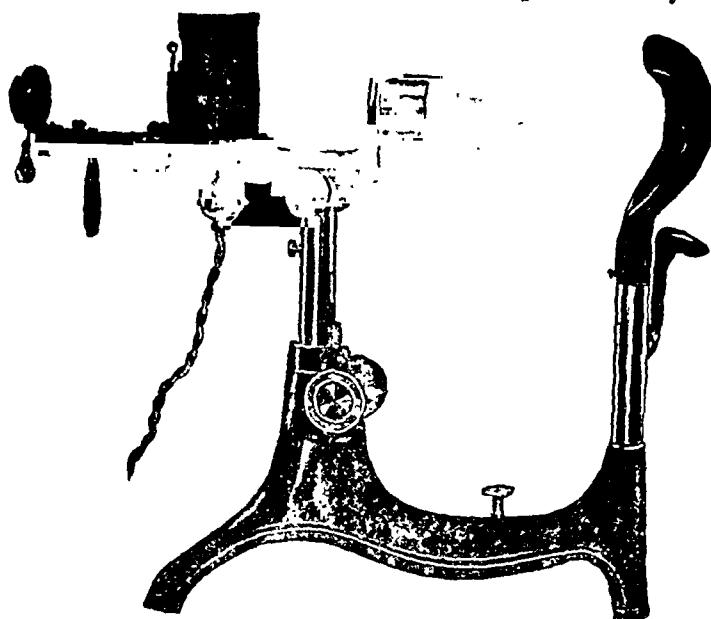


Fig. 1.—The original Geneva ophthalmoscope.

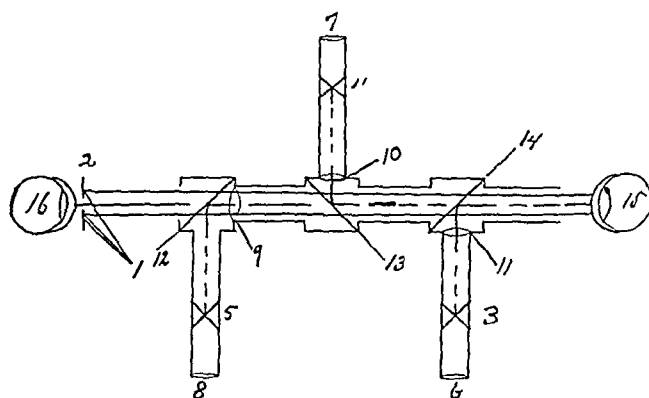


Fig. 2.—Schematic drawing of tubes. 1. Source of light. 2. Mirror (tilting). 3, 4, 5. Indirect images of fundus. 6, 7, 8. Convex lenses to suit observer. 9, 10, 11. Convex lenses, stationary. 12, 13, 14. Plain lenses placed at an angle of 45 degrees to axis of tubes. This gives a reflection of 90 degrees. 15. Patient's eye. 16. Observer's eye.

Geneva Optical Company of Chicago (Fig. 1), is solely intended to simplify the teaching of ophthalmoscopy in the schools. With it, two or three students in addition to the demonstrator can see the same fundus at the same time. The patient's eye is under the direct control of the demonstrator at all times, in that it can follow the movements of the latter's finger.

The chief value of the instrument consists of these points: It is simple; a number of students are able to see the same

* Exhibited before the Section on Ophthalmology of the American Medical Association at the Fifty-fourth Annual Session.

fundus; it can be detached from the original instrument. This allows one to use the original ophthalmoscope without the demonstration attachment.

The accompanying cuts will clearly show the construction of the instrument. The drawing (Fig. 2) plainly shows how the light, which is reflected from the mirror, reaches the fundus

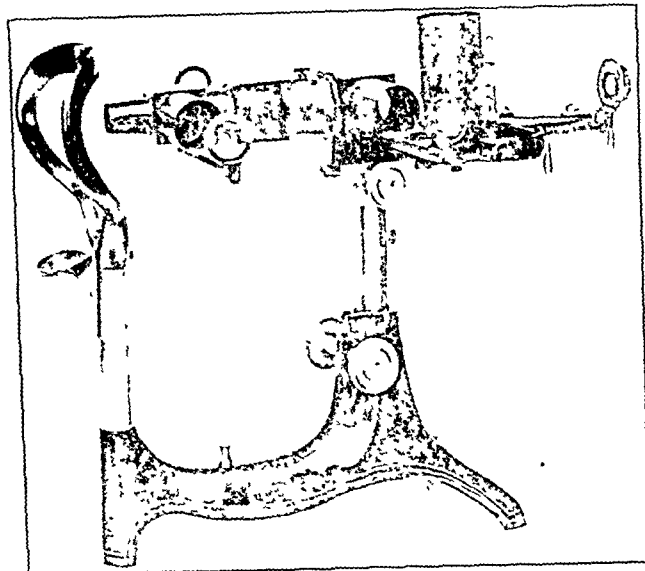


Fig. 3.—This shows the demonstration tubes in their proper position.

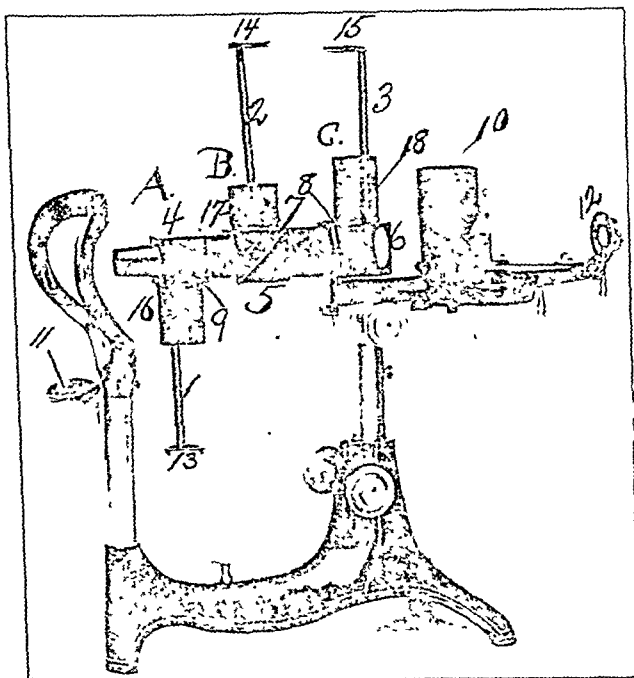


Fig. 4.—Photograph of the original model as shown at the meeting. It simply demonstrates the correctness of the principles involved in a demonstration ophthalmoscope. 1, 2, 3 Telescopic rods. 4, 5, 6 Small square boxes in which are placed slides at an angle of 45 degrees to the axis of the tubes. 7, 8, 9 Strong convex lenses at entrance of tubes. 10 Source of light. 11. Patient's chin rest. 12 Rotating mirror which reflects light into patient's eye. 13, 14, 15. Lens holders. 16, 17, 18 Tubes which open into boxes A, B, C. The three separate attachments. C is inverted, as can be seen from the other illustration.

of the patient and how the student gets a view of this fundus

The principles involved are those of indirect ophthalmoscopy and the total reflection of light from a highly polished and thin transparent media acting as a prism in a "camera obscura."

The loss of light intensity due to the numerous reflections is very trivial and does not detract from the clearness of the

fundus picture. One gets a very large, as well as a magnified, field of the fundus at each position. There are no interfering corneal or light reflexes at any of the attachments. The examined eye must have a dilated iris, and the student must adjust the telescopic tube with a proper convex lens in the holder to suit his own eye. The instrument is best manipulated in the dark room. Either gas or electric light may be employed.

The instrument is a modification of the principles involved in the original Helmholtz's ophthalmoscope and clearly shows how simple it is to get a multiple image of the fundus.

The instrument which I show you is the original crude model. It is intended to show that the principles involved are correct and that a multiple demonstration ophthalmoscope can be made which is truly serviceable. It will be altered in minor details and more neatly constructed so that it can be more accurately adjusted. At the next session of the Section, I purpose to show a perfectly constructed instrument. This one is shown simply as a matter of record and priority.

103 State Street.

Clinical Report.

REPORT OF A CASE OF COMBINED DIAPHRAGMATIC OR "BIMANUAL MASSAGE OF THE HEART,"

DURING COLLAPSE FOLLOWING CHLOROFORM NARCOSIS.

H. M. COHEN, M.D.

VICTOR, COLO.

A woman, aged 32, perfectly healthy, with the exception of an adherent left ovarian cyst; no lesion of the heart, lungs or kidneys. The operation was for the relief of ovarian pain. The usual central, abdominal incision was made, with the patient in the Trendelenburg position. Chloroform was used because it is the choice of anesthetics at this altitude, 10,000 feet above sea level.

Fifteen minutes after the commencement of the operation the patient, without any previous respiratory, circulatory or pupillary danger signal, suddenly became cyanotic and pulseless, cessation of respiration in this case following and not preceding that of the heart. Artificial respiration was immediately resorted to and continued, and the usual hypodermics administered. After two minutes had elapsed and no reaction had been established, I introduced my left hand into the abdominal cavity, pushed along the anterior abdominal wall until the diaphragm was reached, and, placing the hand, palm upward, in about the position the heart would normally be; that organ was easily grasped through the relaxed and intervening diaphragm. There was an entire absence of heart action. Placing the right hand over the precordial region, externally, I now plainly palpated the heart, as it lay between my two hands. In other words, with the heart grasped between the two hands I was in the novel position for what I shall term "bimanual palpation of the heart." I then began rhythmical compression of the heart, using both hands, at a rate of about sixty times a minute. After about thirty seconds a slight beat was felt by the left hand.

The heart now began slowly to beat, gradually increasing both in strength and rapidity of beat, until at the end of one minute after massage began the beats registered about eighty per minute, and respiration began to be partially reestablished. About two minutes after this respiration was normal, pulse eighty and, shock being apparently recovered from, the anesthetic was changed to ether, and the operation finished in about thirty minutes.

At the completion of the operation the patient was in good condition, there being no cyanosis or coldness of the extremities, pulse eighty-six and respiration about normal; consciousness returned in about the usual length of time.

Man's Enemies.—Humanity has but three great enemies, fever, famine, and war, of which by far the greatest, and by far the most terrible, is fever.—Osler.

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MENDEL'S PRINCIPLES OF HEREDITY.

Although it is admitted that a clear understanding of the phenomena of heredity would be of great value in solving many of the perplexing problems of evolution, yet our knowledge of these phenomena has increased but little during the last century. The processes of fertilization and development have been studied in great detail, but we have as yet no idea as to what is the essential agent in the transmission of the parental characters to the offspring. Scientists have, however, begun to study the outward facts of this transmission, and we are gradually beginning to see at least how we ought to go to work at these problems. Among the workers who have contributed most toward the establishment of definite laws of heredity Galton stands perhaps foremost; but there is one other worker of equal prominence whose papers, however, remained unknown to scientists for 35 years after their publication. This investigator is Gregor Mendel, Abbot of Br $\ddot{u}$ nn, who carried on experiments in the garden of his cloister over a period of 8 years before any of his conclusions were put in print. His most important papers were published¹ in 1865 and in 1869, but nothing was known about them until 1900, when de Vries drew attention to them in a paper on experiments along similar lines. Mendel's very remarkable memoirs dealt with hybridization of peas, and he laid down in them what is now known as Mendel's principles, or laws, of heredity.

In cross-fertilizing peas having a distinct differentiating character he found that the hybrid character always resembles that of one of the parental forms so closely that the other either escapes observation completely or can not be detected with certainty. Crossing, for instance, peas having round seeds with a variety having angular seeds he got hybrids having only round seeds. Those characters which are transmitted to the offspring in the hybridization he termed the dominant, while those which became latent in the process he designated the recessive characters. The dominant character may come from either the seed-bearing parent, or from the one that furnished the pollen. In the first generation bred from the hybrids not only the dominant characters appear, but the recessive ones also appear with their full peculiarities, and this in the definitely expressed proportion of three to one. Among each four plants

of this generation we have, therefore, three with the dominant characters and one with the recessive. No transitional forms were observed in any experiment. In the second generation bred from the hybrids those forms in which the recessive characters reappeared in the first generation remain constant. That is, all the offspring coming from forms having the recessive character in the first generation maintain this character in the second and subsequent generation. It is different, however, with those forms which possess the dominant character in the first generation bred from the hybrids. Of these plants two-thirds yield offspring which display the dominant and recessive characters in the proportion of 3 to 1, while only one-third remain with the dominant characters constant. Of 30 plants, for example, which came from round seeds of the first generation, 10 yielded round seeds (dominants), and 20 yielded round and angular seeds, in the proportion of 3 to 1. Both varieties may appear in the same pod.

It is seen from these experiments that the hybrids form seeds having one or the other of the two differentiating characters, and of these one-half develop again the hybrid form, while the other half yield plants which remain constant and receive the dominant or recessive characters, respectively, in the same proportion. There is no blending of the two differentiating characters. If new plants are used which differ in two essential characters instead of one, the results are still more complicated. The hybrid partakes of the dominant characters of each of the parental types, but if one of the latter possesses only dominant characters, then the hybrid is scarcely or not at all distinguishable from it. In crossing round yellow peas with angular green peas the offspring yields only round yellow seeds, because these are the dominant characters. The plants raised from these hybrids yielded seeds of four sorts, which frequently were found in one pod. Here again the recessive characters reappear in the first generation bred from the hybrids. Of these four sorts of seeds one variety, the angular green (recessive) remained constant in the second and subsequent generations. The others yielded both constant and hybrid forms, and this in a definite proportion of the individuals. The constant forms finally represent every possible combination of the associated characters, and hence the law may be stated briefly as follows: In the second and later generations of a hybrid, every possible combination of the parent characters occurs, and each combination appears in a definite proportion of the individuals.

The fact that constant forms appear in all combinations of the associated characters is very significant. Mendel found by experience that constant progeny is produced only when the egg cells and the fertilizing pollen are of like characters, so that both are provided with material for creating quite similar individuals, as in the case with the normal fertilization of pure species. But since the various constants are produced in one

1. Verh. d. Naturf. Ver. Br $\ddot{u}$ nn, 1865, iv. See "Mendel's Principles of Heredity," by Bateson, for translation.

plant, or in one flower of a plant, he concludes that in the ovaries of the hybrids there are formed as many sorts of egg cells, and in the anthers as many sorts of pollen cells as there are possible constant combination forms, and that these egg cells and pollen cells agree in their internal composition with those of the separate forms. And he assumes further that the various kinds of egg and pollen cells are formed in the hybrids, on the average, in equal numbers. The last two statements are, of course, purely theoretical, but Mendel has produced very strong evidence in their favor by means of a complicated experiment in cross-fertilization.

The experiments outlined above have been confirmed with other plants, such as wheat and some species of beans, but contradictions are also encountered. It will now be interesting to see how far these laws are found true in hybridization of animals, a subject which we will consider in a future issue.

INTRACRANIAL TUMORS.

An interesting evidence of the encouragement scientific work in public institutions is receiving is afforded by the anatomic study of intracranial tumors by I. W. Blackburn,¹ pathologist to the Government Hospital for the Insane, Washington, D. C. In the profuse illustrations of this work there is a resemblance to certain famous old atlases of morbid anatomy which have long served as landmarks in medicine; a similar rôle undoubtedly awaits this contribution; it will be valuable for purposes of reference. The large number of black and white, unembellished drawings by Blackburn of microscopic preparations indicate an earnest zeal for this manner of recording observations worthy of hearty commendation. Seventeen of the tumors showed the structure of spindle-celled sarcomas and are designated as "endothelial." They arise from the dura as circumscribed, warty growths, compressing but not infiltrating the substance of the brain. Their slight attachment to the dura has frequently led to the erroneous supposition that their origin was within or from the cerebral tissue. Their location was more commonly the base of the brain, and the ease with which they could be "shelled out" from the surrounding tissues invites surgical intervention for accessible growths of this character with focal symptoms.

Some objections exist to classifying these tumors with sarcomas, and these are recognized in the rather naïve statement that they "can not be classed with any other division of morbid growths, consequently must be placed with the sarcomata or in a class by themselves." The absence of metastatic growths or regional extension, the thickened and hyaline blood vessels they contain and the disposition to undergo fibrous transformation and degenerative changes, especially calcification, are all in marked contrast to the characteristics of malignant tumors; they would denote instead the healing and cicatrizing

inflammatory processes associated with large amounts of granulation tissue, or perhaps more closely ally these neoplasms to benign mesoblastic tumors. In two cases their origin from the endothelium of the arachnoid villi was demonstrated. It might not be out of place to suggest the name of "meningeal endothelioma" for this class of growths. The tumor of this sort described by Brower and Wells² in 1901 was termed peri-endothelioma after the classification of endotheliomas by Borrmann. In addition to these tumors from the dura, 5 gliomas are described, a "gliosarcoma" and a small round-celled sarcoma. Of 3 tumors in the pituitary fossa, 2 arose from the hypophysis; the third, a cystic growth containing considerable cholesterol, was so altered by retrogressive processes that its origin could not be determined; the hypophysis, however, was not involved in the growth. In none of these cases were there any evidences of acromegaly. In view of the prevalent belief of a connection between this disease and tumors of the hypophysis, these 3 cases form a valuable addition to the few similar observations of growths from this structure without acromegaly. The structure of the tumors in the two cases of true pituitary adenoma does not differ materially from that usually described for tumors of the hypophysis; in one the proliferation had assumed a papillary character. The absence or presence of chromatophilic affinities of the cells in these growths was not determined.

It is possible to conclude from a review of this work that the equipment and facilities for research have not reached, in the Asylum for the Insane in Washington, a stage beyond that attained in some of our state institutions of a similar character. It would have added to the value of the report if the newer methods of technic had been employed in studying these intracranial tumors; their relation to the insanity and the secondary changes in the nervous system are phases connected with their examination on which we may hope to obtain information in the future.

There are scattered throughout this country hospitals for the insane with laboratories either under the charge of a single individual or with forces greatly overwhelmed by the wealth of material, whose efforts and enthusiasm are undirected and handicapped by traditions and financial policy. Notwithstanding these conditions, improvement is occurring slowly in the character of the work done, although greatly delayed by the necessity of educating "boards of control" and politicians to the humanitarian need of assisting scientific investigation in medicine. In some instances this improvement is denoted by lavish expenditures for apparatus and buildings with no provisions for the workers they were designed to accommodate.

The benefits of the thorough organization the profession is now undergoing will be apparent when, through the education of public sentiment, greater improvements:

1. A Study of 29 Intracranial Tumors Found in 1,642 Autopsies in Cases of Mental Disease, 1903.

2. Am. Jour. Med. Sc., 1901, cxvii, 32.

are introduced into these laboratories and, through improved direction and co-ordination, more efficient use made of the opportunities they possess for research.

PARAGUAY TEA.

Some months ago a request was made in the *Journal of Tropical Medicine* that some reader in South America give information in regard to maté or Paraguay tea. In response to this it publishes in its October number a communication from a South American resident who points out certain special advantages of this as a stimulant.

It seems to be a fact that the ordinary South American or hybrid South American is not naturally an energetic individual, but under the influence of this physical and mental stimulant the amount of hard work that he can do is hardly limited. The woodmen in the quebracho industry go to the woods between 3 and 4 o'clock in the morning and work steadily for hours on an occasional swallow of maté, only stopping at their noon meal. The correspondent asserts that maté is far superior in its invigorating powers to tea, coffee or cocoa and that it fits one as well for mental as for physical work. It is prepared, as is tea, by pouring boiling water on the leaves, and it should be drunk immediately or sucked through a metal tube, the latter being the preferable way. The stimulating effect of three or four ounces will last for as many hours. The bitter taste is soon tolerated and even relished. The small amount of caffeine as compared with tea or coffee is rather notable; less than one-half the amount in tea, and the lack of volatile oils which often disagree with digestion is another point in its favor. The correspondent thinks that from a hygienic point of view maté ought to be preferred to other beverages that contain caffeine, as its stimulation is not at all debilitating. In only very rare instances has he ever seen it produce any untoward symptoms. Some very neurotic and neurasthenic individuals bear it badly and have their symptoms aggravated if they take it in excess. He admits that a maté habit may be acquired and may become persistent, though no very evil effects, he says, seem to follow. Taken cold, as is the habit with some of the laborers in South America, it seems to have a bad effect, but since they subsist almost entirely on it for days at a time it is not remarkable that they should be anemic and emaciated. They are, moreover, usually subjects of malaria, and it is claimed that taking cold maté in excess makes them more subject to the malarial infection.

There is some responsibility in suggesting a new stimulant to those who are already suffering from excess of such, but it may be that if Paraguay tea were introduced into this country it would help displace some more harmful drinks. The correspondent concludes his article with a quotation in which he says that "when the old world discovers its error in not utilizing the leaf of the Ilex, and shall have found out that yerba maté is the

cheapest, most wholesome and tone-giving of beverages, then the ports of Europe will be thrown open to the trade, and its population swell the demand for an article of diet that ranks among the very best." This opinion may be a little too favorable. We doubt whether maté will displace the daily beverage to which we are now accustomed, but it is nevertheless a possible addition to our luxuries.

CONSUMPTION NOT THE ONLY PROBLEM.

In its latest weekly bulletin the Chicago Health Department calls attention to the exaggerated statements that are sometimes made in regard to the prevalence of consumption, quoting one authority whose estimate would require 35 per cent. increase over the figures shown in the last U. S. Census reports, notwithstanding the fact that there has been a steady decrease all these years in the mortality from phthisis. This is only one instance of the exaggeration in which good men allow themselves occasionally to indulge when speaking of a subject in which they are strongly interested. Consumption is a scourge, but it does not follow that its evils should be overstated. A review of the consumption mortality in Chicago during the last half of the nineteenth century shows a decrease of over 40 per cent. in the ratio of mortality, at the same time that there is a 53 per cent. increase in the mortality from pneumonia since the beginning of the last decade of the nineteenth century. During the past few years the pneumonia mortality—though its excess is largely confined to about seven months of the year—has annually exceeded the total of deaths from consumption and there is a continued increased percentage of deaths from this cause. We can not credit the whole of this, as *THE JOURNAL* has long ago pointed out, to influenzal infection which has been rampant during the past ten or eleven years. We have other problems, therefore, beside that of consumption and which at present seem even more serious.

DANGER FROM SLEEPING CARS.

Apropos to the question of consumption we may refer to some statements made at the recent meeting of the American Public Health Association¹ in regard to the hygiene of railroad traveling, and especially of sleeping cars. One speaker said that the official investigation of a state board of health disclosed the fact that the blankets used in these conveyances were only cleaned once in every six months. Considering this in connection with the additional fact that was pointed out by another speaker that consumptives are constantly traveling on these cars, the matter becomes a serious one. There is no question that the chances for acquiring consumption are increased by modern luxuries of travel. The only consolation we have is that we have been taking these chances for many years without any appreciable harm, since consumption is apparently on the steady decrease, at least as regards its mortality, if not its incidence. This is no reason, however, for neglecting sanitary precautions, and we trust that railroad organizations, the Pullman Company and others that are re-

1. See Society Proceedings, page 1157.

sponsible for the present condition of things will bring about the changes that are needed to insure the safety of the traveling public.

POLITICAL CONTROL OF PUBLIC INSTITUTIONS.

We have troubles of our own, but there is sometimes, perhaps, a little disreputable satisfaction in knowing that others have them, too. The political management of public institutions in this country has become so patent an evil that we have almost reached the point where we accept it as inevitable. In some states the political patronage theory most seriously affects the usefulness of public charitable institutions and yet politicians can not be induced to give up what they consider their perquisites. This evil, however, exists elsewhere, and it is evidence of company in our misery to read in the *Intercolonial Medical Journal of Australasia* that the authorities there are practically the same in their methods and ideas as here. Our confrère says: "Whenever anyone attempts to overturn the belief that political patronage is the beneficial system of administration the commotion is sure to be active and immediate," and this is in reference to the stand taken by the chief secretary of the Colony of Victoria. Even in Great Britain influence may vitiate the choice of officers as in the case of one asylum a few years ago in the southern portion of the island. Nevertheless, we believe that we have been, and are, more afflicted with political control of charitable institutions than almost any other people—perhaps excepting some of the British colonies. The medical press and the medical profession have been too quiet about the matter, and it is time we used our influence as a profession to help bring the needed reform.

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

This is one of the largest medical libraries in the world, and in many respects the best. The collection at the present time consists of about a quarter of a million medical books and pamphlets, of which 149,000 are bound volumes. One of the most important functions of the library is the preparation of its "Index Catalogue," of which one volume appears yearly. The first series of sixteen volumes, covering the entire alphabet, was completed in 1895, and the latest volume of the second series, recently published, completes all entries under the letter K. Although based on the Library of the Surgeon-General's Office, this unique work is practically an index of the medical literature of the world as published in book form and in journals. Both authors and subject-matter being indexed, it is available as a working catalogue in any large library, general or medical, and is so used in all civilized countries. This work is unique in the domain of medicine, of which it includes all branches, and in no other science or profession is the special literature indexed on the same large scale and in the same comprehensive way. The Index Catalogue is issued to public libraries and to important medical schools and societies. It is thus made as generally available to the medical profession of the country as the limited number of copies furnished will allow. Books are lent to individuals on the application of recognized libraries, assuming responsibility for

their return, or if no library is available the loan is made subject to a money deposit to cover possible loss. In all cases express charges must be paid by the borrower. Rare volumes which could not be replaced in case of loss are not lent, but the great mass of literature in the library is thus put within the reach of the medical profession, to whom this excellent collection should be a source of legitimate national pride.

PRELIMINARY QUARANTINE.

Elsewhere in this issue is a communication from a correspondent containing a suggestion that, simple as it appears to be, seems worthy of attention. We all know the difficulties of diagnosis in the beginning of many infectious diseases. Diphtheria and scarlet fever are often hardly distinguishable from other conditions that are comparatively innocuous and that do not require any notification. The difficulty of diagnosing smallpox in its early stages is well known. Typhoid fever is often difficult to recognize in its incipency. Nevertheless, it is not always possible to say when the danger of infection from these diseases begins, and the earliest warnings that can be given are advisable. The inconvenience, to say the least, of quarantining a house is such that it is advisable, where practicable, to be sure it is necessary before inflicting a home with a quarantine card. Our correspondent suggests, in cases in which there is a reasonable suspicion of a contagious disease; but in which the exact type is not yet ascertainable, that simply a notice of an infectious disease without any specification as to its nature be posted. While the idea is not a new one, having been carried out in some places, it is worth wider attention than it has received. We would amend our correspondent's suggestion by advising a card reading, "Quarantine, Probably Infectious Disease Here," to avoid the absolute declaration of infection until the diagnosis is sure. When the true nature of the disease is ascertained the attending physician could remove the card, and replace it with the one called for by the disease, or remove all quarantine if the disease proved to be non-infectious. Probably more hard feelings arise among physicians over the diagnosis of suspected cases of contagious and infectious diseases than over any other cause. If a preliminary quarantine notice would materially lessen this—and it seems that it would—here is one strong argument in favor of the measure. In some cities a card is used reading: "Quarantine"—in large letters—"Contagious Disease Here"—in smaller letters—thus suggesting that quarantine is the principal fact for notice and that it is not necessary to publish abroad details as to which particular type of contagion is represented. This would exclude the trespasser who boldly approaches a house labeled with a disease from which he has already suffered and of which he consequently has little fear, regardless of the danger of his example or of carrying the germs elsewhere. Such a card might be used for all quarantine and the exact diagnosis left to the attending physician. If a preliminary quarantine card is used, the public will be further educated on the important fact that certain diseases can not be distinguished in their incipency.

Medical News.

ILLINOIS.

County Aids Sufferers.—The public service committee of the county board has set aside \$2,000 to be used as an emergency fund for the relief of smallpox sufferers at Lemont.

Charged with Murder.—Two guards at the Illinois Hospital for the Incurable Insane, Bartonville, who are charged with having brutally beaten and abused an insane patient so that he died, have been held without bail to the grand jury, which convenes November 9.

Corrosive Sublimate for Calomel.—It is reported in the daily press that a baby in Mattoon recently died from poison. The mother took the child to the office of a physician, who, intending to give her calomel, gave her tablets of bichlorid of mercury. At the inquest the physician confessed his mistake and was exonerated by the jury.

Smallpox in Will and Cook Counties.—Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, after careful investigation, reports that there are 250 cases of smallpox in Dupage Township, Will County, and in Lemont Township, Cook County. The supervisors of both townships have agreed to establish a strict quarantine.

National Guard Medical Officers Meet.—The Illinois Association of Military Surgeons met, October 31, at Rush Medical College. The morning session was devoted to reports and papers; in the afternoon Professor Senn gave a clinic, and in the evening the members of the association were his guests at a dinner at the Chicago Athletic Club. Col. N. Senn, surgeon-general, was re-elected president; Major Thomas J. Sullivan, surgeon Seventh Infantry, vice-president, and Major Charles Adams, surgeon First Infantry, secretary-treasurer.

Chicago.

Personal.—Dr. and Mrs. Llewellys F. Barker sail, November 7, for Europe, on the *Lahn*.—Dr. and Mrs. Andrew M. Harvey are spending a few weeks in the south.

Increase in Infectious Diseases.—Diphtheria continues to increase—23 per cent. in the last fortnight—and scarlet fever fully 60 per cent. comparing the last half with the first half of the month. Three cases of smallpox were removed to the Isolation Hospital—all from Lemont and none vaccinated.

For New Laboratory Superintendent.—An original entrance examination will be held by the civil service commission, November 17, for superintendent of the city laboratory to succeed Dr. William K. Jaques, instead of filling the office from the eligible list of medical inspectors. Dr. Wynekoop will be in charge temporarily.

Mortality for the Week.—Of the total 473 deaths reported for last week, 63 were due to pneumonia, 52 to consumption, 48 to heart disease, 37 to Bright's disease, and 36 to violence. The death-rate for the week was at the rate of 13.07 per 1,000. This is higher than during either the previous week or the corresponding week of last year.

Dr. Frank Billings' Illness.—The many friends of Dr. Billings will be sorry to learn that it became necessary for him to submit to a second operation. He was doing well until a slight hemorrhage developed about 15 days after the operation, which finally became so severe that it was necessary to reopen the wound. Since the operation, which occurred October 31, there have been no more hemorrhages and the patient is doing well.

October's Deaths.—The total 1,962 deaths from all causes reported during October furnish an annual rate of 12.25 per 1,000. This is 13.6 per cent. less than the average October rate of the previous ten years, which was 14.19. With one exception it is the lowest October rate on record. There were 282 more deaths of males than females—an excess of 25 per cent. The 195 pneumonia deaths—almost 10 per cent. of the total—is unusual for October, and is ominous for the future, says the department of health.

Dr. Stevenson Critically Ill.—Dr. Sarah Hackett Stevenson, one of the most eminent medical women of America, and prominent not only in medical circles, but in all work for women, suffered a cerebral hemorrhage while in her office, October 30. She was taken to Augustana Hospital, and thence, on November 3, to St. Joseph's Hospital. She is completely paralyzed, and it is feared that the paralysis may be permanent. The Medical Woman's Club announces that the banquet which was to have been given in the honor of Dr. Stevenson, November 14, is indefinitely postponed.

INDIANA.

Infectious Diseases.—Typhoid fever is said to be raging at Goshen.—Lafayette has 18 cases of smallpox, all of mild type.—Dr. Seth B. Melton, Fontanet, reports 75 cases of smallpox in that town and its vicinity.

September Deaths.—The total number of deaths reported was 2,766, an annual rate of 13.4 per 1,000. In the corresponding month last year 2,812 deaths were reported, a rate of 13.6. In the preceding month there were 2,933 deaths, rate 13.7. By important ages the deaths were: Under 1 year, 519; from 1 to 5 years, 245; from 5 to 10 years, 65; from 10 to 15 years, 66; 65 years and over, 557. Some important causes of death were as follows: Tuberculosis, 347; typhoid fever, 166; diphtheria, 35; croup, 3; scarlet fever, 15; measles, 6; whooping cough, 5; pneumonia, 110; diarrheal diseases, 265; cerebrospinal meningitis, 35; influenza, 3; puerperal fever, 12; cancer, 92; violence, 184; smallpox, 2. The city death rate was 16.4 and the country death rate 11.8 per 1,000. The death rates of the cities having over 25,000 were: Indianapolis, 17; Evansville, 14.8; Fort Wayne, 14; South Bend, 17.2, and Terre Haute, 17.6 per 1,000.

Disease Prevalence in September.—Typhoid fever stood first in area of prevalence, as was also the case in the preceding month. Deaths occurred in 66 counties, there being a total of 166. Diarrhea was second in area of prevalence, as was also the case last month. Tonsillitis and bronchitis were more prevalent than they were in the preceding month. There were 68 cases and 2 deaths from smallpox in 16 counties. This is a decided drop as compared with the preceding month, also compared with the corresponding month last year. It is likely that all the cases were not reported, for it has appeared in the last few days in Clay County, among children, and was diagnosed as chicken-pox. The order of prevalence of diseases was as follows: Typhoid fever, diarrhea, tonsillitis, rheumatism, bronchitis, intermittent fever, dysentery, cholera morbus, scarlet fever, cholera infantum, pneumonia, inflammation of bowels, diphtheria, measles, pleuritis, influenza, erysipelas, whooping cough, puerperal fever, meningitis.

Personal.—Dr. and Mrs. Hamilton Wolfe, New Albany, recently celebrated the sixty-fourth anniversary of their marriage.—Dr. John Z. Powell, Logansport, has been placed in charge of the National Home for Disabled United States Volunteer Soldiers at Johnson City, Tenn.—Dr. Seymour C. Wilcox, New Albany, recently celebrated his eighty-fifth birthday.—Dr. Marshall Varble, Jeffersonville, has been operated on for appendicitis at Norton Infirmary, Louisville.—Dr. James W. Estes, Arlington, suffered a loss of \$600 by a fire in which his instruments, office furniture and medicines were destroyed.—Dr. Walter R. Francis has resigned as treasurer of the Marion Hospital.—Dr. and Mrs. John M. Kitchen recently celebrated their golden wedding in Chicago.—Dr. Kent K. Wheelock, Fort Wayne, has sailed for Europe.—Drs. Ernest C. Reyer, Albert C. Kimberlin, and Thomas E. Courtney have been appointed members of the Indianapolis Board of Health.—Dr. Mavity J. Spencer, Indianapolis, has been appointed secretary of the board of health and city sanitarian.—Dr. Joseph D. Cain has been appointed superintendent of the city dispensary, Indianapolis.

IOWA.

Smallpox.—At Quincy 30 cases are reported, at Corning three cases have occurred, and at Runnells there have been 20 cases in the last month.

Personal.—Dr. John C. Rockafellow, Des Moines, has gone to Arizona on account of impaired health.—Drs. Hornibrook have constructed and opened a hospital at Cherokee.

Hospital Association Organized.—The Atlantic Hospital Association has been incorporated with a capital stock of \$10,000 by Drs. Carlton V. Wilder, Thomas B. Morris, and others to operate a hospital in Atlantic.

Physician Enjoined from Practice.—In the case of Dr. Horace W. Barnard, Emmetsburg, who invoked the aid of the law to prevent Dr. J. C. Davies, whose practice, property and residence he had bought, from practicing again in Emmetsburg, the court has decided that the temporary injunction shall be made permanent, and that Dr. Davies shall not practice in Emmetsburg nor in Palo Alto County.

Lamoni Murder Decision Reversed.—The Supreme Court has reversed the decision of the lower court, by which Dr. J. W. Crofford, Lamoni, was sentenced to twenty years in the penitentiary for the murder of Miss Maude Stone by a criminal operation, on the ground that one of the jurors had expressed an opinion on the case and because of errors in the trial. Dr.

Crofford will accordingly have a new trial. Despite the refusal of the State Board of Medical Examiners to restore his certificate he has continued to practice since his release on bail.

KANSAS.

Typhoid Fever in Kansas City.—An epidemic of typhoid fever is prevailing in a small neighborhood in the central part of Kansas City, where 27 cases are reported.

Personal.—Dr. Claude Mayfield, Hutchinson, has been appointed health officer of Reno County, vice Dr. George R. Gage, resigned.—Dr. George M. Minney, Wichita, has been appointed captain and assistant surgeon, K. N. G., and assigned to Battery B.

Physician Found Not Guilty.—In the case of Dr. Jacob L. Hausman, Marysville, charged with having caused the death of Kate Strohm by a criminal operation, the state failed to produce any testimony against the accused, and the judge instructed the jury to find him not guilty.

License to Stay Revoked.—Dr. Robert E. Gray, Garden City, who was tried in Chicago for the murder of a girl whom he is said to have taken to that city to have a criminal operation performed, and whose license was revoked several months ago by the State Board of Medical Registration and Examination on the ground of his immoral character, has been refused a rehearing by the board.

MARYLAND.

Bequests.—Dr. William J. Todd, Mount Washington, receives \$500 and Dr. Josiah S. Bowen \$6,500, by the will of Mrs. Adeline P. Bowen.

Personal.—Dr. Alexander D. McConachie, Baltimore, has been elected professor of materia medica and therapeutics in the Maryland Medical College.

Hospital Society Election.—The first meeting of the Johns Hopkins Hospital Medical Society for 1903-4 was held October 12. Dr. Thomas B. Fletcher was elected president and Dr. Charles P. Emerson, secretary.

Compromise Verdict.—The suit for \$10,000 for alleged malpractice in an operation for tumor brought against Dr. Edwin B. Claybrook, Cumberland, was decided October 25, by a compromise verdict of one cent for the plaintiff. Dr. Claybrook is a B. & O. R. R. surgeon.

Deaths of the Week.—There were 184 deaths in Baltimore last week, an annual death rate for the colored of 30.43 per 1,000, and of the white of 13.12 per 1,000. There were 6 deaths from typhoid fever, and 20 each from consumption and pneumonia. Diphtheria is on the increase.

New Clinical Society.—The American Society of Clinical Surgery, a new national organization devoted purely to clinical demonstrations, will be organized at the Johns Hopkins Hospital, Baltimore, November 13. The committee in charge consists of Drs. Harvey Cushing, Joseph C. Bloodgood, and John M. T. Finney of the Johns Hopkins Medical School. The society will adjourn in the evening and go to Philadelphia, where several sessions will be held at the University of Pennsylvania and at the University of Pennsylvania hospitals. Dr. George E. Brewer, New York, is provisional president, and Dr. James G. Mumford, Boston, secretary. The aim of the society is to stimulate its members in original thought and research, to develop and improve methods of surgical teaching and to promote good fellowship among its members. A small membership and semi-annual meetings are proposed.

NEW YORK.

Personal.—Dr. Henry D. Didama, Syracuse, who underwent an operation October 25, is reported to be improving.

Cornerstone Laid.—The cornerstone of the new St. Luke's Hospital, Utica, was laid on October 17. Mr. and Mrs. Frederick T. Proctor, Utica, have given the site for the hospital and will build and equip it, and the whole will represent, when finished, an outlay of nearly \$200,000.

Notice of Examinations.—The State Civil Service Commission will hold examinations for the positions of superintendent and resident physician in the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, Nov. 28, 1903, in various cities throughout the state. Intending competitors must fill out application blanks and file them in the office of the commission before noon of November 23. Applicants will be duly notified of the time and place of examination. Non-residents of the state will be admitted. The requirements and conditions of examination are as follows:

Medical Superintendent.—Probable salary, \$3,500 a year, with quarters and maintenance for the superintendent and his family.

The duties of the position are defined by Chapter 416 of the Laws of 1900, which further provides that such medical superintendent shall be a well-educated physician, a graduate of a legally chartered medical college, who has had at least six years' actual experience in the practice of medicine, including at least one year's experience in a general hospital.

Resident Physician.—Probable salary, from \$900 to \$1,500 a year, with quarters and maintenance. Duties to be prescribed by the medical superintendent, under the direction of the board of trustees. Candidates must be regularly graduated physicians and have had at least two years' experience in the practice of medicine, including one year's actual experience in a general hospital.

For full particulars, application blanks, etc., address Chief Examiner, State Civil Service Commission, Albany.

New York City.

Another Convalescent Hospital.—It is announced that a hospital for convalescents will soon be opened in connection with Lebanon Hospital.

Personal.—Dr. Louis Stern and wife were badly hurt by being pinned down by their automobile which was thrown into an unguarded excavation.

Resolutions on Dr. Pilgrim's Death.—The faculty of the New York School of Physical Therapeutics has adopted resolutions eulogistic of its departed associate, Dr. Maurice Fischer Pilgrim.

St. Luke's Hospital Report.—The managers of the hospital report that during the past year, ending with St. Luke's Day, there were treated in that hospital 2,642 persons, and that the expenditures exceeded the receipts by \$32,166.81.

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give a course of clinical lectures on diseases of the skin to the medical profession at the New York Skin and Cancer Hospital, on Wednesday afternoons at 4:15, commencing November 4.

Larceny of Hospital Supplies.—On complaint of the charities commissioner an attendant in the King's Park Insane Hospital, formerly employed in Bellevue Hospital, was arrested on the charge of having stolen from the hospitals of the department, bandages and other surgical supplies worth \$4,000.

Druggist Not Responsible in Counter Prescribing.—The appellate division of the New York Supreme Court handed down October 30 an important decision regarding the legal liability of druggists for injuries received by patients whom they see fit to treat. The plaintiff alleged that he had received a slight cut on his thumb and that a drug clerk bandaged the wound and instructed him to keep the dressing wet with a carbolic lotion; that he had put five or six drops of the acid on the bandage, with the result that blood poisoning set in, necessitating the amputation of the thumb. The defense was that druggists were not permitted, under the law, to practice medicine or surgery, and that the plaintiff was guilty of contributory negligence. This contention was upheld both by the trial court and the appellate court.

OHIO.

Hospital Incorporated.—Mercy Hospital, Columbus, has been incorporated with a capital stock of \$60,000.

Colored Hospital.—The Peter Fosset Memorial Hospital for colored people took corporate form October 8, when its board of trustees took formal charge. The hospital contains about twenty beds. Such a hospital has been much needed inasmuch as very few of the hospitals of Cincinnati accept colored people. The active staff is as follows: Drs. E. Duval Colley, Norval C. Vaughan, W. A. B. Kerr, Louis A. Cornish, and James C. Erwin.

Personal.—Dr. Benjamin F. Lyle, Cincinnati, has been made director of the bureau for the free examination of consumptives.—Dr. Herbert Bacon, Bloomville, has suddenly become totally blind.—Dr. Theodore W. Rankin, Columbus, has returned from abroad.—Dr. Carl Hiller has been appointed bacteriologist of the Cincinnati City Hospital, vice Dr. Albert B. Devers, resigned.—Dr. James Donnelly and family, Toledo, have returned from Europe.

New Sanitary Code Proposed.—A new sanitary code largely extending the powers of the Columbus Board of Health has been proposed by Dr. W. T. Howard, Jr. Under this code the board will be given enlarged power to control communicable diseases, the sanitary conditions of schools, factories, dwellings, offices, public buildings and vehicles, the protection of foods and the abatement of nuisances. Residences will be more strictly placarded and disinfected. District physicians will report on the cleanliness of school buildings. Teachers will be instructed in the symptoms of children's diseases. The New York rules have been adopted for controlling tuberculosis. The sale of rubber tubes for nursing bottles will be prohibited.

The Colleges.—The medical colleges of Cincinnati open this fall under slightly changed conditions. The medical department of the University of Cincinnati (Medical College of Ohio) opens with conditions unchanged except for additional equipment, and has registered about the same number of students as last year. The Miami Medical College has absorbed two minor colleges during the past year. One year ago the Cincinnati College of Medicine and Surgery closed its doors and a large part of the faculty went to Miami. During the past summer the Laura Memorial College, a woman's school, has been directly transferred to the Miami. The laboratories of the Laura Memorial College were well equipped and will be used by the Miami for teaching. The teaching privileges at the Presbyterian Hospital are transferred with the college. The attendance at the Miami will probably equal that of last year.

PENNSYLVANIA.

New School Book Committee.—As a committee for the examination of school text-books for the Pennsylvania State Medical Society the following have been appointed: Drs. Andrew B. Brumbaugh, Huntingdon; John W. Ellenberger, Harrisburg; Edgar M. Green, Easton; Edward Stieren, Pittsburg; and S. Solis-Cohen, Philadelphia.

The Allegheny Quarantine Matter.—The friction between the State Board of Health and the health officials of Allegheny in regard to dealing with the smallpox situation, has probably ended by the local authorities adopting the measures insisted on by the state board. There will likely be no general quarantine of the city, but quarantine will be vigorously carried out where found necessary, and reports of the condition will be made regularly to the state board.

Philadelphia.

Diphtheria is Prevalent.—There were 94 new cases of diphtheria for the week ended October 31 and 22 new cases of smallpox. Typhoid fever has materially decreased, there being 69 new cases for the week.

College and Hospital Personal Mention.—Dr. John H. Gibbon has been made one of the surgeons to the Pennsylvania Hospital to fill the vacancy made by the death of Dr. Thomas G. Morton.—Dr. Judson Daland, for 21 years a member of the faculty of the University of Pennsylvania, has been elected professor of clinical medicine of the Medico-Chirurgical College, to succeed Dr. William E. Hughes, resigned.

GENERAL.

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics held its third annual meeting at Philadelphia November 5.

Writers on hematologic topics, according to a letter we have received, are asked to send two reprints of their articles or two numbers of the corresponding journals to Charles E. Simon, M.D., American editor of the *Folia Haematologica*, 1302 Madison Avenue, Baltimore, for the purpose of review in that journal. In the place of reprints, authors' abstracts will also be received, and can be published immediately after, or coincidentally with, the appearance of the original.

New Naval Titles Asked.—Surgeon-General P. M. Rixey, U. S. Navy, in his annual report calls attention to the lack of military rank in the titles now given the medical officers of the Navy and to the lack of dignity when the titles are compared with those of civil life or of other military services. He recommends titles which show both the rank and the grade, as follows:

In place of surgeon general, surgeon admiral, and in the other grades, medical director to become surgeon captain; medical inspector, surgeon commander; surgeon, surgeon lieutenant commander; passed assistant surgeon, surgeon lieutenant, and assistant surgeon, surgeon lieutenant, junior grade.

Surgeon-General Rixey declares there is necessity for the thorough upbuilding of the Naval Medical School. He advocates the complete renovation of all naval hospitals in need of it. He recommends the building of a new hospital on Seavey's Island, Portsmouth, N. H., at least remodeling of the hospital at Chelsea, Mass.; and the enlargement of the hospital at Pensacola sufficiently to accommodate the sick of the fleets which maneuver in the Caribbean each winter. He asks that two hospital ships be authorized on plans evolved from the experience with the *Solace*, each to cost \$1,630,000, and recommends a naval sanitarium for the cure of tuberculosis.

The Craig Colony Prize of \$200 is offered by Dr. Frederick Peterson for the best original essay on the etiology, pathology and treatment of epilepsy. The conditions to be complied with

are that the paper must show original research work; the subject-matter must be original; the paper must be accompanied by a sealed envelope containing the name and address of the author and bearing on the inside a motto or device, which is also to be inscribed on the essay; the manuscript must be in English and be sent to Dr. Peterson at 4 West 50th Street, New York, before Sept. 30, 1904. The successful manuscript becomes the exclusive property of the Craig Colony.

The Alvarenga Prize for 1903 has been awarded to Dr. William S. Carter, Galveston, Texas, for his essay entitled: "The Relation of the Parathyroids to the Thyroid Glands." Dr. Thomas R. Neilson, secretary, informs us that the College of Physicians of Philadelphia will make the next award of the Alvarenga Prize (being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about \$180) on July 14, 1904. Essays may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college by May 1, 1904. Each essay must be sent without signature, but marked with a motto and be accompanied by a sealed envelope having on its outside the motto and within the name and address of the author.

CANADA.

St. Boniface Hospital Addition.—A four-story addition to this hospital at Winnipeg, to cost \$100,000, will be built.

Jubilee at Queen's University.—The medical faculty of Queen's University, Kingston, Ont., celebrated its jubilee, October 16, by the opening of a new physiologic and geologic building.

Tuberculosis Sanatorium for British Columbia.—The Ministerial Association of Vancouver desires a sanatorium in British Columbia, and a provincial association for the handling of tuberculosis will be formed.

Toronto Dispensary.—Last year about 13,000 of the sick poor of Toronto were here treated. The dispensary has quite outgrown the accommodation and equipment of the present building, and an appeal has been made for funds for the erection and equipment of a new building next spring.

Infectious Disease Circular in British Columbia.—The Health Department of British Columbia will distribute leaflets containing information on common infectious diseases among the school children. The object is to make the parents more familiar with these diseases. A daily report from the teachers regarding pupils absent through illness will be required whenever disease is prevalent or on the increase.

Personal.—Dr. J. C. Connell has been appointed dean of the medical faculty of Queen's University, Kingston, Ont., in succession to the late Dr. Fife Fowler.—Dr. William Bayard, St. John, N. B., has resigned from the chairmanship of the New Brunswick Board of Health. Dr. Bayard has for more than 40 years been active in board of health matters in that province, and is one of the oldest practitioners in Canada.—Dr. R. Tait McKenzie of the anatomy department of McGill University, Montreal, has been appointed chairman of the Canadian Committee for the St. Louis World's Fair Olympic Games.

A New Western Hospital for Montreal.—At the quarterly meeting of the board of governors of the Western Hospital, Montreal, held last week, it was stated that a new hospital would probably be erected in the spring and that it would provide good accommodation for at least 100 patients. The building would cost in the neighborhood of \$100,000. The report of the medical secretary showed that 146 patients had been received into the ward during the past quarter while 1,941 consultations had been given in the outdoor department. The treasurer's report showed the finances to be in a satisfactory condition.

FOREIGN.

The Picture Postal Card in the Hospitals.—The Paris authorities have originated the idea of allowing each hospital to print a set of ten picture postal cards illustrating the various services and scenes in the hospitals. They are to be sold by the door-keeper for the benefit of the sick.

Official Endorsement of the Biologic Blood Test.—Austria formally adopted, some time ago, this biologic method for forensic cases, and made arrangements for the production of the prepared serum for the purpose. Prussia has followed this example and recommends that this test should be used in forensic cases to supplement and complete others. Four stations have been appointed for the production of the serum and the carrying out of the tests, including the Institute of Hygiene at Greifswald, the Institute of Experimental Therapy at Frankfurt, and the Institute for Infectious Diseases at Berlin.

Some Statistics of Fatal Illnesses.—The physicians in Bavaria have been instituting an inquiry as to the number of persons without medical attendance in their last illness. They find that in a large part of the country a physician was summoned in less than half of the cases of illness that terminated fatally and in certain districts only 10.5 per cent. of the fatal cases had any medical attendance. The proportion is larger in the cities. In Baden 71.3 per cent. had had medical attendance and in Mosbach 62.1 per cent. Only 51.7 per cent. of the children under one year had had medical attendance during their last illness, but the proportion rises to 91.9 per cent. in cases of children more than a year old.

Novel Application of Drunkards as Object Lessons.—The cable states that the friends of temperance in the Russian city of Kieff have installed warm, comfortably-equipped halls in three different quarters of the town to which the police have orders to carry persons found intoxicated in the streets. Each hall is divided into two sections, one for men, the other for women. They are under the control of a physician, who sees that the "guests" are properly attended to until they become sober, when they are liberated. These halls are open to the public at all hours, the theory being that nobody but a confirmed drunkard will risk being seen by his townsmen lying drunk in a public hall. The halls have been in use a month and have sheltered intoxicated persons. The average time required for becoming sober was ten hours.

Vital Statistics in Germany.—The German government has recently published the statistics of the causes of death during the last twenty-five years in the empire. All diseases show a remarkably reduced death rate except certain gastro-intestinal affections. The general mortality has been reduced from 26.73 per 100,000 to 20.46. The average per five years of the deaths from tuberculosis has been reduced from 357.7 to 218.7; acute respiratory affections, from 308.6 to 258.5; typhoid and gastric fevers, from 43.6 to 10.4; diphtheria and croup, from 99.8 to 31.1; puerperal fever, from 14.4 to 5.1. On the other hand, the mortality of the acute intestinal affections, dysentery, etc., has increased from 264.1 to 287.8. The number of viable children born has also diminished. This higher mortality from gastro-intestinal affections is an actual retrogression, the report concludes, and attributes it to the increased participation of women in wage-earning occupations. The more women who enter industrial life the larger the number of infants who are deprived of breast milk. The above statistics apply only to towns of 15,000 inhabitants or over. Fuller details are quoted in the *Allg. Med. Ct.-Ztg.*, October 17.

A Warning to Wealthy Parents.—Under this heading reference was made last week to a sensational case of sadism in which the victims were the two sons of a wealthy Berlin banker entrusted to a private tutor. It seems that a Berlin neurologist had been briefly consulted by the mother, who commissioned him to go and visit her sons in the country to see if a course of suggestive treatment would be advisable to supplement the corporal punishment which the tutor applied in moderation with her consent to break them of long-established habits of masturbation and untruthfulness. He had asked for consultation with a specialist. The neurologist, therefore, visited them once and saw nothing suspicious—physical examination was not allowed by the tutor, who feared it might detract from his authority, and the neurologist had been particularly cautioned not to do or say anything to offend the highly prized and very sensitive tutor. The boys complained only of sleeplessness. The neurologist advised abandonment of corporal for psychic measures, and that a specialist should be sent down every month to inspect their progress. Even when the tutor was under observation for weeks in an asylum after his arrest, his appearance and behavior suggested nothing abnormal.

Battle of the Clubs in Germany.—The physicians connected with the medical aid insurance societies in Germany have resigned in a body at so many places that the advertisements warning outside physicians not to negotiate with the societies without consulting the undersigned, have become so numerous that they are now condensed into a single display ad in our German exchanges. Twenty-five towns are specified, and the name of the local representative of the *Leipziger Verband* is signed to each. The *Verband* announces that it will impart information at any time free of charge in regard to vacancies, medical assistants wanted and other matters of practical interest, with advice as to desirable points to locate in, etc. Our exchanges also comment with pleasure on the successful outcome of the negotiations between the medical officers and the societies at many points, thanks to the united stand taken by the profession. We note that the names of Gera and Mühlhausen are still advertised as points where the strike is still

on, the particulars of which have been mentioned in these columns from time to time. The societies resort to numerous tricks to contract with outside physicians, the latest being to conceal both name and place in advertising, and have the mail addressed to the office of the advertising journal, sending a man to confer with the applicant at his home. Our exchanges no longer accept unsigned ads of this kind unless the writer is personally known to them.

LONDON LETTER.

The Sanitation of India.

An elaborate report on the sanitation of India in 1901 has been issued. The population amounted to 293 millions, showing an increase of 1.3 per cent. on 1891, but in several districts there was a considerable decrease. A marked relation was found between decreased population and diminished rainfall. The decennium included 2 famine years and cholera and plague were exceptionally prevalent. The decennial birth rates and death rates showed great variations; the highest provincial birth rate was 50.5, the lowest 14.67; the highest death rate was 119.9, the lowest 15.9. Cholera caused 4½ million deaths during the decennium. In 1901 the birth rate for the whole of India was 34.7, against 36.6 in 1900. The fever mortality was low, being 18.7 against 22.8 in 1900. The cholera death rate was low, 1.20, against 3.70 in 1900. The smallpox death rate was 0.40. It is estimated that about 33 per cent. of the children born are vaccinated. There was a large increase of plague mortality, the deaths amounting to 233,988, against 92,807 in 1900.

Correspondence.

Preliminary Quarantine.

ELMHURST, ILL., Oct. 26, 1903.

To the Editor:—I wish to suggest a plan that I believe, if carried out, would be of great value to the public and at the same time would relieve the physician of a great load of responsibility. It is difficult in the incipency of many infectious diseases to establish a positive diagnosis. Measles, rütheln and scarlet fever are at times confused, as are tonsillitis and diphtheria, chicken-pox and smallpox. It is often difficult to establish a strict quarantine in these doubtful cases. The public, in general, has a wholesome dread of placarded houses, and the strict isolation of the patient would be fostered if in every infectious disease the house be placarded with a sign like the following: "Contagious disease here," or "Infectious disease here." This sign could be put up in the beginning of every infectious disease, and in this manner we could quarantine measles, rütheln, chicken-pox, parotitis and tonsillitis. This sign could be supplemented by the other placards of scarlet fever, diphtheria, etc., but this would not be necessary.

HENRY F. LANGHORST, M.D.

Marriages.

WESLEY G. BAILEY, M.D., to Mrs. Walter Elrod, both of Chicago.

ROY E. BROWN, M.D., to Miss Carolyn Hutt, both of Chicago, October 6.

EDWIN ELLIOTT ARMSTRONG, M.D., to Myrtle Demuth, both of Sylvania, Ohio, October 14.

CHARLES M. NODLER, M.D., to Miss Josephine Schnens, both of Denver, Colo., October 5.

JOHN J. MULDOON, M.D., to Miss Johanna Isabella, Dwyer, both of Chicago, October 19.

ARTHUR EMORY SUDLER, M.D., to Miss Louise Painter Gilpin, both of Baltimore, October 21.

EDWIN K. DINGES, M.D., Pekin, Ill., to Miss Margaret Alice Wood of Decatur, Ill., October 22.

FRANK W. LOCKWOOD, M.D., South Bend, Ind., to Miss Florence E. Jenkins of Tecumseh, Neb.

GEORGE H. VERNON, M.D., East St. Louis, Ill., to Miss Mand Cooper of Bradfordton, October 21.

CHARLES W. BURT, M.D., to Miss Jennie Margaret Barr, both of Valley Junction, Iowa, October 28.

FINN. KOREY, M.D., Appleton, Minn., to Miss Benedicta Solberg of Minneapolis, Minn., Oct. 20.

EDWARD EUGENE GILLECK, M.D., to Miss Charlotte Irene Thompson, both of Niagara Falls, N. Y.

HERBERT POLLOCK CRAWFORD, M.D., Crafton, Pa., to Miss Florence Barr of Philadelphia, October 20.

CLAYTON C. PATCHEN, M.D., to Miss Armintha M. Reed, both of Mount Sterling, Ill., at Jacksonville, Ill., October 14.

RUPERT L. TURRELL, M.D., Conneaut, Ohio, to Miss Minnie Wheeler of Windsor, N. Y., at Cleveland, Ohio, October 20.

JAMES CLINTON BALLARD, M.D., U. S. P. H. and M.-H. S., to Miss Luda B. Bowman, both of Natchez, Miss., September 17.

LEE M. FRANCIS, M.D., Pueblo, Colo., to Miss Ethel Mary Waldron of Colorado Springs, Colo., in London, England, October 28.

Deaths.

John K. Lineaweaver, M.D. Jefferson Medical College, Philadelphia, 1861, a member of the American Medical Association, Medical Society of the State of Pennsylvania, and Lancaster County Medical Society, and president of the Columbia Board of Health for many years, died at his home in Columbia, October 18.

George C. Hays, M.D. Medical College of Indiana, Indianapolis, 1876, one of the founders of the Fountain County Medical Society, died at his home in Hillsboro, Ind., October 26, from tuberculosis, after a lingering illness, aged 67.

William R. McMahon, M.D. Rush Medical College, Chicago, 1868, chief surgeon of the Southern Railroad, Louisville Division, for several years, died at his home in Huntingburg, Ind., October 23, from apoplexy, aged 67.

Joseph N. Guerard, M.D. University of Maryland, Baltimore, 1899, a member of the Georgia Medical Society of Savannah, died at his home in that city, October 23, from Bright's disease, after a long illness, aged 28.

Sarah F. Mackintosh, M.D. Woman's Medical College of the New York Infirmary, 1872, died at her home in Asbury Park, N. J., October 19, aged 67. She was a member of the Monmouth County Medical Society.

Jonathan Taft, M.D. University of Michigan, Ann Arbor, 1881, founder and dean of the dental department of the University of Michigan, died at his home in Ann Arbor, October 15, after a short illness, aged 83.

Quincy E. Andrews, M.D. Jefferson Medical College, Philadelphia, 1865, an early settler of the Red River Valley, died at his home, eight miles north of Fargo, N. D., suddenly, from apoplexy, October 22, aged 69.

Benjamin Atkins Harding, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1870, died at his home in Blackstone, Ill., October 21, after an illness of ten days, from influenza, aged 61.

Daniel M. Schaeffer, M.D. College of Physicians and Surgeons, Baltimore, 1890, died from septicemia, after an illness of three weeks, October 21, at his home in Harper's Ferry, W. Va., aged 36.

Robert H. O'Hara, M.D. Jefferson Medical College, Philadelphia, 1865, died at his home in Williamstown, Ky., October 20, from kidney disease, aged 65. He retired from active practice in 1878.

Philip Roberts, M.D. Eclectic Medical Institute, Cincinnati, 1866, died at his home in Richmond, Ky., October 22, from paralysis, aged 70. He was twice state senator from his district.

William E. Waters, M.D., lieutenant colonel and deputy surgeon-general, U. S. Army, retired, died at his home in Washington, D. C., October 27, from acute gastritis, aged 69.

Laban C. Winsor, M.D. Bellevue Hospital Medical College, New York, 1885, died from consumption at his home in Livermore, Cal., October 21, after a long illness, aged 41.

Charles E. Decker, M.D., assistant surgeon U. S. P. H. and M.-H. Service, University of Michigan, Ann Arbor, 1891, died at his station in San Diego, Cal., October 22.

Asa Hopkins Churchill, M.D. Yale University, New Haven, 1867, a member of the Connecticut Medical Society, died at his home in Meriden, October 24, aged 72.

George W. Carpenter, M.D. University of Michigan, Ann Arbor, 1853, formerly of Chicago, died at his home in San Francisco, Cal., October 3, aged 87.

Zaremba W. Waldron, M.D. University of Pennsylvania, Philadelphia, 1871, of Jackson, Mich., died at Ann Arbor, Mich., October 1, from apoplexy, aged 60.

William B. Coyle, M.D. Queen's College, Belfast, Ireland, 1868, an early practitioner of Nelson County, N. Dak., died recently at his home in Lakota.

Benjamin Franklin Payne, M.D. Eclectic Medical Institute, Cincinnati, 1857, died at his home in Steubenville, Ohio, from paralysis, October 22, aged 76.

John W. Brown, M.D. Miami Medical College, Cincinnati, 1873, died at his home in Bailey, Texas, October 7, after a surgical operation.

Rose F. Monnish, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882, died at her home in Atlanta, October 16.

Edwin Ashton, M.D. Cleveland Medical College, died at his home in Lima, Ohio, October 21, after an illness of four days, aged 77.

Lafayette Z. Coman, M.D. University of Michigan, Ann Arbor, 1879, died at his home in Boulder, Colo., October 18, from pneumonia.

Henry O. Hearn, M.D. Louisville Medical College, 1894, died at his home in Lexington, Ind., October 23, aged 35.

Emanuel Ridgeway, M.D. Chicago Medical College, 1878, died at his home in Morris, Ill., October 17, aged 71.

Deaths Abroad.

William Johnson Walsham, M.B., C.M., Aberdeen, 1871; F.R.C.S. England, 1875, successively assistant demonstrator of anatomy, demonstrator of anatomy, demonstrator of practical surgery, lecturer on anatomy and lecturer on surgery at St. Bartholomew's Hospital Medical School, London, one of the most eminent teachers of anatomy and surgery in Great Britain, died at his home in London, October 5, aged 56. His work on theory and practice of surgery reached an eighth edition before his death.

George Lawson, F.R.C.S. England, 1857, staff assistant surgeon throughout the Crimean War; surgeon to Middlesex Hospital, London, for 33 years; eminent as a specialist on the eye, and surgeon-oculist to the late queen, died at his home in London, October 12, after an illness of three years, aged 72.

James Robert Wallace, M.D., F.R.C.S., secretary of the Indian Medical Association; editor of the *Indian Medical Record*, died in Calcutta, September 27, after an illness of several months, following a severe attack of pleurisy.

Thomas James Pickburn, M.D. Aberdeen, 1874; M.R.C.S. England, 1876, one of the founders of the Hospital for Sick Children, Sydney, died from angina pectoris, at his home in that city, August 18, aged 57.

Osman F. Hall, M.D. Northwestern University Medical School, Chicago, 1896, a medical missionary in West China, died recently at his post of duty at Chung King, aged 37.

Book Notices.

TEXT-BOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College, and William M. Sweet, M.D., Demonstrator of Ophthalmology, Jefferson Medical College. With Chapters by Christian R. Holmes, M.D.; Casey A. Wood, M.D., D.C.L., and Wendell Reber, M.D. With 256 illustrations, including Colored Plates. Cloth. Pp. 532. Price, \$4.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

This book is one that will be received with favor by the student and practitioner. It is a plain, clear statement of the principal facts of ophthalmology throughout, with a definition of terms that is clear, a description of conditions and methods that is at once concise and readily intelligible, and is a most satisfactory treatment of its very comprehensive subject. We find some matters here more easily explained with the aid of the illustrations and text than we have found them in some of the other text-books on the subject, and yet there is very little superfluous material. The illustrations are admirable and numerous. We notice certain additions, one of which seems to us a little novel in a work of this kind, though we presume that it has also been included elsewhere, that is, the chapter by Dr. Casey Wood on ocular symptoms in general diseases. The other two contributed chapters by Dr. Wendell Reber and Dr. Christian R. Holmes are also valuable. We

think, however, that perhaps a little more fulness in Dr. Reber's contribution might have been of some advantage; the brevity of the treatment is notable, though the subjects appear to be generally covered. Taken altogether the book is an excellent one and ought to be a success as an aid to teachers and as a ready reference book for general practitioners.

LESSONS ON THE EYE. For the Use of Undergraduate Students. Frank L. Henderson, M.D., Ophthalmic Surgeon to St. Mary's Infirmary. Third Edition. Cloth. Pp. 205. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co. 1903.

Henderson has given us a valuable work. It is unique, as it teaches nothing but what the student and the general practitioner should know. No claim is made as to the correction to a fraction which can only be done by a trained specialist. The diseases described are such as do not require the use of the ophthalmoscope. Every teacher of ophthalmology will be pleased to place this work in the hands of his students. The illustrations are finely demonstrated and the work is presented in a very attractive form.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the Pronunciation and Definition of the Principal Words Used in Medicine and Kindred Sciences. Pp. 566. With 64 Extensive Tables. Price, Flexible Leather, with Gold Edges, \$1.00 net; with Thumb Index, \$1.25 net. Philadelphia, New York and London: W. B. Saunders & Co. 1903.

This is a compact, handy and practical dictionary for the physician's office desk, or to place under the buggy seat. It contains practically every term used in medicine with concise definitions.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.
Oklahoma Medical Examining Board, Enid, Nov. 10.
Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.
Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.
State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.
Nebraska State Board of Health, Lincoln, Nov. 11.
Board of Registration of Medicine of Maine, Augusta, Nov. 11.
Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.
New Mexico Board of Health, Santa Fe, Dec. 7.
Examining Board of Medical Society of Delaware, Dover, Dec. 8.
Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.
Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Kansas Report.—Dr. O. F. Lewis, Hepler, reports the written examination conducted by the Kansas State Board of Examination and Registration at Topeka, Oct. 13 to 15, 1903; the subjects examined in were 9; questions, 90; percentage, 75; candidates, 32; passed, 28; failed, 4.

Candi. Schl. of		PASSED.		Year	Per
date.	Pract.	College.	Grad.		
260	R.	University Medical College, Kansas City	1899	84	
261	R.	University of Iowa	1903	87	
262	R.	Northwestern University, Chicago	1903	83	
278	R.	Northwestern University, Chicago	1901	85	
275	R.	Northwestern University, Chicago	1903	87	
263	R.	Kentucky University, Louisville	1903	80	
264	R.	Marion-Sims-Beaumont M. C., St. Louis	1902	85	
280	R.	Marion-Sims-Beaumont M. C., St. Louis	1899	82	
265	R.	"Medical College of Chicago" (?)	1903	85	
268	H.	Hahnemann Med. College, Kansas City	1901	82	
267	R.	University of Nebraska, Omaha	1903	87	
268	R.	University of Medicine, Kansas City	1884	76	
269	R.	McGill University, Montreal	1899	77	
270	R.	Keokuk Medical College, Iowa	1903	85	
271	R.	College of Phys.	1895	82	
272	R.	University of	1892	87	
273	R.	Jefferson Med.	1903	83	
274	R.	Bellvue Hospi	1890	83	
276	R.	Baltimore Medical College	1903	83	
277	H.	Hering Medical College, Chicago	1900	83	
281	H.	Hering Medical College, Chicago	1903	85	
279	R.	Chattanooga Medical College, Tennessee	1902	75	
282	R.	College of Phys. and Surgs., St. Louis	1892	77	
283	R.	Hospital College of Medicine, Louisville	1903	84	
284	R.	Rush Medical College, Chicago	1903	81	
285	R.	Yale University	1876	75	
286	R.	College of Phys. and Surgs., Kansas City	1903	81	
287	R.	Illinois Medical College, Chicago	1903	81	

FAILED.

288	E.	University of Nebraska, Omaha	1903	62
289	R.	Ensforth Med. College, St. Joseph, Mo.	1898	67
290	R.	Keokuk Medical College, Iowa	1902	71
291	H.	Hahnemann Medical College, Chicago	1889	41

The questions asked were as follows:

ANATOMY.

1. Give origin and insertion of the pectoralis major muscle.
2. Name all the muscles attached to the scapula.
3. What structures are severed in amputation of the thigh at the middle third?
4. Give origin and distribution of the pneumogastric nerve.
5. Give the coverings of an oblique inguinal hernia.
6. Give origin and insertion of the deltoid muscle.
7. Give the anatomy of the heart.
8. Give the number and names of the carpal and tarsal bones, respectively.
9. Give origin and distribution of the phrenic nerve.
10. Describe the structures within the eyeball.

CHEMISTRY.

1. What are molecules?
2. Is chlorine combustible or a supporter of combustion, and what occurs when a burning candle is immersed in chlorine?
3. What is nitrogen monoxide?
4. What is the chemical antidote for arsenical poisoning?
5. What is carbon dioxide, and what else is it called?
6. Where and how does sodium occur?
7. Does uric acid occur free in the urine normally?
8. What is the clinical significance of the presence of free uric acid in the urine?
9. Why do urates form deposits in joints and cartilages?
10. What is the reaction of blood during gout?

OBSTETRICS AND GYNECOLOGY.

1. What are the indications for the use of forceps?
2. Conditions requisite for the application of the forceps.
3. Under what conditions would you induce premature labor?
4. What is version? How many kinds are there? Name them.
5. How would you perform each kind of version?
6. How would you treat tumors of the mammary glands in a general way?
7. Give diagnosis, prognosis and treatment of fibroids of the uterus.
8. Give the use of the curette.
9. Give the use of the tampon.
10. How would you treat a case of puerperal eclampsia?

PATHOLOGY.

1. Define gangrene.
2. What is a sarcomatous tumor? Give its pathology.
3. Define chronic gastritis and give its pathology.
4. Give symptoms, etiology, pathology, diagnosis and prognosis of herpes zoster.
5. Give symptoms, etiology and prognosis of erysipelas.
6. Give diagnosis and prognosis of neuritis (multiple).
7. Define purpura hemorrhagica.
8. Define purpura hemorrhagica.
9. Give of septicemia and pyemia.
10. Describe the p

BACTERIOLOGY.

1. Define bacteria.
2. Name one cause of many fermentations.
3. Define germicides.
4. Name four germicides.
5. What does the presence of tubercle bacilli signify?
6. The presence of the Klebs-Loeffler bacilli in an exudate is positive evidence of what disease?
7. What are spores?
8. Name principal cause of poisoning from canned meats, milk and cheese.
9. In what disease do you find the streptococci?
10. Name the bacillus of diphtheria.

PHYSIOLOGY.

1. Give the history of the corpuscles.
2. Give the composition of the blood.
3. Give the phenomena of a simple muscular contraction.
4. Write a page on reflex action.
5. Give the main general facts of the circulation.
6. Describe the mechanism of the valves of the heart.
7. Describe the movements of the esophagus and stomach.
8. What change does the food undergo in the alimentary canal?
9. Give the source and distribution of heat in the body.
10. Write a page on the influence of the nervous system on nutrition.

SURGERY.

1. Give the etiology, diagnosis and treatment in traumatic gangrene.
2. What circumstances would lead you to expect erysipelas to become a factor in your surgical cases? What measure would you use to avoid it? and, if occurring, how would you combat it?
3. What symptoms would lead you to guard against tetanus, and how would you treat the case?
4. What would be your treatment in a severe case of chilblains?
5. Differentiate chancre from chancroid.
6. Describe the operation of hare-lip.
7. A boy, aged 8, fell onto his elbow and injured it severely and has no use of the joint. What is the most profitable pathologic condition, and how will you treat it?
8. Describe an amputation of the third finger at the metacarpophalangeal articulation.
9. What is whitlow, and how should it be treated?
10. Differentiate between talipes equinus and talipes valgus and give surgical treatment.

MATERIA MEDICA—REGULAR.

1. What are the regular preparations and doses of hydrastis?
2. What medicines are incompatible with the iron preparations?
3. What is the source from which phosphorus is obtained?
4. What is hyoscyamus?
5. What precautions should be observed in administering ether?
6. What are the physiologic effects of valerian?
7. What are the medicinal uses of veratrum viride?
8. What are anthelmintics?
9. What is ammonium chlorid?
10. Name the sedative expectorants.

THEORY AND PRACTICE—REGULAR.

1. Diphtheria diagnosis, prognosis and treatment.
2. Purpura diagnosis and treatment.
3. Give diagnosis, prognosis and treatment of acute bronchial catarrh.
4. Write a page on the sounds of the heart.
5. Tell what abnormal sounds of the heart indicate.
6. Give diagnosis and treatment of acute peritonitis.
7. Name the chronic diseases of the liver.
8. Give the different steps in the examination of urine.
9. Write a page on epilepsy.
10. Chorea diagnosis and treatment.

THEORY AND PRACTICE—HOMEOPATHIC.

1. Describe a typical case of tabes dorsalis and name best treatment.
2. Name five leading remedies for pneumonia and give indications calling for each.
3. Give technical name, course and treatment of a typical case of spotted fever.
4. Differentiate between acute bronchitis and whooping cough in its early stages.
5. Locate and describe a typical case of appendicitis, naming best

treatment. 6. Give diagnosis and treatment of Bright's disease; also give technical name. 7. Differentiate between pleurisy and pleurodynia. 8. Describe a typical case of cholelithiasis, giving treatment. 9. Give diagnosis, prognosis and treatment of glycosuria. 10. Give the fundamental principles of the homeopathic practice, including scientific reason for giving infinitesimal doses.

MATERIA MEDICA—ECLECTIC.

1. Define the terms tonics, alteratives, sedatives and diaphoretics. Name five remedies in each class. 2. Define the terms antispasmodics, anthelmintics, diuretics, cholagogues, oxytoxics, and name five in each class. 3. What is the composition of stillingia liniment? (Scudder.) 4. Make a belladonna plaster. State where plant grows, when gathered, part used, how manipulated till in the plaster ready for use. 5. What drug plants are indigenous to the state of Kansas? 6. What is the composition and therapeutic property of King's diaphoretic powder, syrup mitchella compound, libradol, antibilious physic, and Mayer's ointment? 7. State the indications for the administering of bryonia, rhus, tox, macrotys, apis, viburnum, aconite, ipecac, echinacea, cactus, drosera, collinsonia, apocynum, nux vomica, podophyllum, hydrastis, sanguinaria, subnitrate of bismuth, sodium sulphite, muratic acid and nitric acid. 8. What is the origin and therapeutic property of carbolio acid? 9. Name the different finished products of Peruvian bark; also of the Chinese poppy. 10. Name six common poisons and give their antidotes.

Minnesota Report.—Dr. C. J. Ringnell, Minneapolis, secretary of the Minnesota State Board of Medical Examiners, reports that some medical schools are unfamiliar with the rules of the board. All applicants must present evidence of having attended four full courses, extending over four years, at a medical college recognized by the Minnesota board. Candidates having been granted advanced standing for work done at non-medical colleges are not eligible. During the last year a considerable number have made application who have taken only a three years' course in the medical departments. At the examination in St. Paul October 6 to 8, 95 written questions were asked on 12 subjects and a percentage of 75 was required; out of 35 applicants, 23 passed and 13 failed. We have prepared a summary below of the schools having 2 or more representatives. All applicants are recent graduates (1900, 1901, 1902 or 1903) unless otherwise specified.

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Hamline Univ., Minneapolis..	3	0	77.2	76.1	76.4	.....
University of Minnesota.....	3	2	84.7	71.1	80.5	72.2
Rush Medical College, Chicago	3	0	88.7	78.3	82.5	.....
Northwestern Univ., Chicago..	3	0	87.6	77.1	82.3	.....
Coll. Phys. and Surgs., Chicago	2	5	80.0	68.5	78.1	69.8
University of Iowa.....	1	1	77.4	70.2	77.4	70.2
Hahnemann Med. Coll., Chicago	0	2	70.5	65.5	.....	68.0
Chicago Homeo. Med. College.	2	0	80.1	77.8	78.9	.....

* Graduate 1891, second examination. † Graduate 1897, fourth examination. ‡ Graduate Chicago Homeopathic Medical College, 1896, and Rush Medical College, 1898.

Following are the grades in detail of the candidates from schools having three or more representatives:

Hamline University: 76.1, 77.2 (third examination), 76.1 (second examination).
 Rush Medical College: 82, 82.8, 88.7, 78.3, 85, 78.4.
 Northwestern University: 82.4, 87.6, 77.1.
 University of Minnesota: 76.9 (second examination), 84.7, 80.1 (second examination), 71.1 (graduate 1899), 73.4 (second examination).
 College of Physicians and Surgeons, Chicago: 80, 76.3, 68.5, 68.7, 68.6, 72.9, 70.4.

In addition there were the following applicants:

College.	PASSED.	Date Grad.	Per Cent.
McGill University, Montreal.....	1903		77.6
University of Michigan.....	1903		83.5
Omaha Medical College.....	1902		86.9
FAILED.			
University of Vermont.....	1903		68.3
University of King Frederick, Norway.....	1902		55.6

The board's grades average as follows: Passing 81.0, failing 63.3, average of all 76.7.

The American Confederation of Reciprocating, Examining and Licensing Medical Boards.—A meeting of this board was held at the Southern Hotel, St. Louis, October 27. The meeting was well attended, representatives being present from Michigan, Wisconsin, Indiana, Illinois, Kentucky, Iowa, Nebraska and Missouri. The conference was called to consider "reciprocity from the standpoint of experience in the interchange of state licenses." This subject was discussed in all its bearings by the members of the confederation, as well as by a large number of visitors; among others, Dr. Carl Black, president of the Illinois State Medical Society. It was the consensus of opinion of those present that interstate reciprocity in licensing

physicians is urgently demanded by the medical profession, but that there are many obstacles in the way of a practical solution of the question. Among these are: A want of uniformity in the standards now and at the time licenses were issued; the fact that in many states licenses were formerly issued merely on presentation of a diploma, and are now issued only after a satisfactory examination before the state board of health or licensing board of the state; also that in many states, the laws strictly prohibit reciprocity; in others like Illinois, the law is silent on the subject, and in many states in which reciprocity is permitted by law, it is refused by the licensing body of the state. Most of the discussion of the afternoon was centered on qualification No. 2, which provided that "A certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state, provided that the holder thereof at the time of such registration was the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state." This qualification was stricken out and a committee appointed to draft a new paragraph in its place. The provisions of qualification No. 2 as rewritten, do not differ essentially from those stated above, except that the word "thereof" was made to read "of such registration," in order that it might apply to the date of registration rather than the date of the diploma. Beyond the fact that the question was discussed from all sides and that a better understanding was had of the difficulties in the way of securing reciprocity, little of a substantial nature was accomplished. The following officers were elected: President, Dr. William A. Spurgeon, Muncie, Ind.; vice-presidents, Drs. Harris H. Baxter, Cleveland, Ohio, and John A. McKlveen, Chariton, Iowa; secretary and treasurer, Dr. Beverly D. Harison, Sault Ste. Marie, Mich.

The Public Service.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department is transferred from the last page, to allow the publication of each report one week earlier. The first and last pages of "The Journal" go to press before those in the center.]

Army Changes.

Changes in the Medical Department, U. S. Army, during the week ending Oct. 31, 1903:

Halliday, Francis A., contract surgeon, relieved from duty at Fort Moultrie, S. C., and ordered to Fort McPherson, Ga., for duty.
 Wall, Francis M., contract surgeon, relieved from duty at Columbus Barracks, Ohio, and ordered to Camp George H. Thomas, Ga., for duty.

Harris, Herbert I., contract surgeon, relieved from duty at Camp George H. Thomas, Ga., and ordered to Columbus Barracks, Ohio, to accompany the Twentieth Infantry to the Philippines for duty.
 Hart, James W., contract surgeon, relieved from duty at Fort Washington, Md., and ordered to Fort Hunt, Va., for duty.

Richards, Alfred, contract surgeon, relieved from duty at Fort Hunt, Va., and ordered to Fort Sheridan, Ill., to accompany the Twentieth Infantry to the Philippines for duty.

Hodson, Frederick A., contract surgeon, relieved from duty at Fort Mackenzie, Wyo., and ordered to San Francisco, to accompany the Twentieth Infantry to the Philippines for duty.

Ashburn, James K., contract surgeon, relieved from duty at Fort Crook, Neb., and ordered to Fort Lincoln, N. D., to relieve Contract Surgeon Samuel S. Turner, who will proceed to his home at Chicago for annulment of contract.

Hogan, David D., contract surgeon, has arrived at Mazomanie, Wis., on two months' leave of absence from the Division of the Philippines.

Jones, John F., contract surgeon, has been relieved from duty at Fort Schuyler, N. Y., and assigned to duty at Fort Totten, N. Y.
 Mason, George L., contract dental surgeon, has been granted one month's leave of absence from the Division of the Philippines, with permission to travel in China.

The following named assistant surgeons, recently appointed, are ordered to report, on Nov. 3, 1903, at 9 o'clock a. m., at the Army Medical Museum Building, Washington, D. C., to Col. C. L. Helzmann, assistant surgeon general, president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Craig R. Snyder, Ernest G. Bingham, James D. Hey-singer, John B. Huggins, Edgar W. Miller, William H. Taft, Lloyd L. Smith.

The following named assistant surgeons are relieved from duty at the post designated after their respective names and ordered to report at the Army Medical Museum, Washington, D. C., at 9 o'clock a. m., Nov. 3, 1903, to Col. C. L. Helzmann, assistant surgeon general, president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Henry S. Klersted, Fort Miley, Cal.; Jay R. Shook, Fort Myer, Va.; Robert E. Noble, Fort Sheridan, Ill.; J. W. Van Dusen, Columbus Barracks, Ohio; Park Howell, Eagle Pass, Texas; R. B. Miller, San Francisco, Cal.; J. I. Mabce, Post of San Francisco, Cal.; P. L. Jones, Fort Rodman, Mass.; F. L. Palmer, Jefferson Barracks, Mo.; E. B. Vedder, Fort Columbus, N. Y.; Henry F. Pipes, Fort

Totten, N. Y.; C. L. Foster, Fort Myer, Va.; J. R. Bosley, Fort McPherson, Ga.; R. C. Loving, Fort Leavenworth; C. J. Siedman, Fort Adams, Mass.; O. G. Brown, Fort Monroe, Va.; G. F. Juene-mann, Fort Columbus, Ohio; Joseph F. Slier, Fort McPherson, Ga.; Arthur Whaley, Fort Sheridan, Ill.

Thornburgh, R. M., first lieutenant and asst.-surgeon, is relieved from duty at Fort Slocum, N. Y., and ordered to Fort Warren, Mass.

Mathews, George W., first lieutenant and asst.-surgeon, is relieved from duty at Fort Warren, Mass., and ordered to proceed to Fort Dupont, Del.

Collins, George L., first lieutenant and asst.-surgeon, resigned his commission as an officer, to take effect Oct. 23, 1903.

Webb, W. D., first lieutenant and asst.-surgeon, reported for duty at West Point, N. Y., on Oct. 23, 1903.

Truby, W. F., first lieutenant and asst.-surgeon, reported for duty at Fort Preble, Me., Oct. 24, 1903.

Ewing, Charles B., major and surgeon, relieved from duty at Fort Preble, Me., and ordered to Columbus Barracks, Ohio, reports his departure for new station Oct. 23, 1903.

McAndrews, P. H., first lieutenant and asst.-surgeon, left Jefferson Barracks, Mo., for temporary duty at Fort Des Moines, Iowa, on Oct. 28, 1903.

Berans, James L., first lieutenant and asst.-surgeon, reported for duty at Morro Castle, Santiago, Cuba, Oct. 18, 1903, from Rowell Barracks, Cuba.

Wakeman, William J., major and surgeon, is granted thirty days' leave of absence.

Wales, P. G., major and surgeon, returned to station at Fort Assiniboine, Mont., from leave of absence.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Oct. 31, 1903:

P. A. Surgeon C. N. Fiske, commissioned passed assistant surgeon, with rank of lieutenant, from May 15, 1903.

Pharmacist E. T. Morse, detached from Navy Yard, Boston, and ordered to the Navy Yard, Portsmouth, N. H.

Medical Inspector D. N. Bertolotti, detached from duty at Naval Dispensary, Washington, D. C., and ordered to continue other duty.

Surgeon F. L. Pleadwell, detached from the *Kearsarge* and ordered to duty at the Naval Dispensary, Washington, D. C.

Surgeon C. H. T. Lowndes, detached from Naval Hospital, Boston, and ordered to the Naval Academy, Annapolis, Md.

P. A. Surgeon J. J. Snyder, ordered to the *Kearsarge*.

Asst.-Surgeon Karl Ohnesorg, detached from the Naval Academy and ordered to the Naval Hospital, Boston.

Asst.-Surgeon H. A. Dunn, ordered to the Naval Proving Ground, Indian Head, Md.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 30, 1903:

SMALLPOX—UNITED STATES.

Illinois: Belleville, Oct. 10-23, 4 cases, 2 deaths; Chicago, Oct. 18-24, 1 case.

Maine: Bangor, Oct. 10-19, 50 cases; Brewer, Oct. 10-19, 10 cases.

Massachusetts: New Bedford, Oct. 18-24, 1 case.

Michigan: Detroit, Oct. 18-24, 1 case.

New Hampshire: Manchester, Oct. 18-24, 6 cases.

New Jersey: Jersey City, Oct. 19-25, 1 case.

New York: New York City, 18-24, 2 cases.

Ohio: Cincinnati, Oct. 17-23, 4 cases; Cleveland, Oct. 18-24, 1 death; Dayton, Oct. 18-24, 1 case.

Pennsylvania: Altoona, Oct. 18-24, 4 cases, 1 case imported; Johnstown, Oct. 18-24, 14 cases, 3 deaths; Philadelphia, Oct. 18-24, 9 cases, 8 deaths.

Utah: Salt Lake City, Oct. 18-24, 1 case.

Wisconsin: Milwaukee, Oct. 22-28, 2 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 4-10, 9 cases.

Colombia: Barranquilla, Oct. 5-11, 1 death.

Great Britain: Birmingham, Oct. 4-10, 6 cases; Bradford, Sept. 26-Oct. 10, 5 cases; Glasgow, Oct. 10-16, 5 cases; Leith, Oct. 4-10, 1 case; Liverpool, Oct. 4-10, 3 cases; London, Oct. 4-10, 2 cases; Manchester, Oct. 4-10, 2 cases; Newcastle-on-Tyne, Oct. 4-10, 4 cases.

India: Bombay, Sept. 16-29, 3 deaths.

Italy: Catania, Oct. 9-15, 1 death.

Netherlands: Amsterdam, Oct. 11-17, 3 cases, 1 death.

Russia: Moscow, Sept. 20-Oct. 3, 4 new cases, 7 deaths; Odessa, Oct. 4-10, 2 cases; St. Petersburg, Sept. 27-Oct. 3, 1 death.

Spain: Barcelona, Oct. 4-10, 5 deaths.

Venezuela: Bolivar, Oct. 4, present; San Felipe, Oct. 14, epidemic; Tucuyo, Oct. 3, prevailing.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Oct. 22-28, 95 cases, 10 deaths; Minera, Oct. 21-23, 3 cases, 1 death; San Antonio, Oct. 21-26, 7 cases, 1 case at Fort Sam Houston; Dewitt County, Oct. 26, 3 cases, 1 death.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Oct. 1-15, 1 case.

Cuba: Habana, Oct. 6-9, 1 case on American S.S. Monterey from Progreso; 2 cases on German S.S. Prinz Adalbert from Vera Cruz and Tampico.

Mexico: Citas, Sept. 27-Oct. 3, 16 cases, 5 deaths; Linares, Sept. 27-Oct. 3, 555 cases, 46 deaths; Merida, Sept. 27-Oct. 3, 13 cases, 4 deaths; Nuevo Laredo, Oct. 22-27, 12 cases, 4 deaths; Tampico, Sept. 27-Oct. 3, 5 cases, 4 deaths; Vera Cruz, Oct. 10-17, 58 cases, 18 deaths.

CHOLERA—FOREIGN.

India: Madras, Sept. 19-25, 3 deaths.

Japan: Kobe, Sept. 26-Oct. 3, 2 cases, 1 death.

Turkey: Hama, Oct. 3, prevailing; Homs, Oct. 3, prevailing; Nabeck, Oct. 3, prevailing; Tripoli, Sept. 15, 15 to 20 cases daily.

PLAGUE—FOREIGN.

Australia: Queensland, Brisbane, Sept. 12, 2 cases, 2 deaths; Townsville, Sept. 4, 1 case, 1 death.

Chili: Iquique, May 15-Aug. 17, 170 cases, 101 deaths; Valparaiso, to Aug. 24, 9 cases, 2 deaths.

Japan: Yokohama, Sept. 13-26, 2 cases, 1 death.

Medical Organization.

Indiana.

LAKE COUNTY MEDICAL SOCIETY.—This society has been re-organized at Hammond with the aid of Dr. George F. Keiper, Lafayette, counselor for the Tenth District, with Dr. Frederick Howat, Hammond, president.

Iowa.

POWESHIEK COUNTY MEDICAL SOCIETY.—Physicians of the county met in Grinnell, October 9, and formed a county society on the standard plan with the aid of Drs. Edward E. Dorr, Des Moines, and David C. Brockman, Ottumwa, counselors for the Seventh and Sixth districts, respectively. The following officers were elected: President, Dr. Elbert W. Clark, Grinnell; vice-president, Dr. Edward B. Williams, Montezuma; secretary and treasurer, Dr. Pearl E. Somers, Grinnell, and censors, Drs. Samuel C. Buck, Grinnell, Charles D. Busby, Brooklyn, and Vinton S. Wilcox, Malcom.

Louisiana.

VERNON PARISH MEDICAL SOCIETY.—This society was recently organized in affiliation with the state and national organizations and elected the following officers: Dr. Mark R. McAlpin, Leesville, president; Dr. C. C. Self, Hornbeck, vice-president; Dr. Frederick W. Dortch, De Ridder, secretary, and Dr. James H. Word, Leesville, treasurer.

LAFOURCHE PARISH MEDICAL SOCIETY.—Physicians of the parish met at Thibodaux, October 24, and organized a parish society with an initial membership of 14. Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, was present and aided in the organization, which was effected on the standard plan. Dr. Abel J. Price, Lockport, vice-president, and Dr. Sampson A. Ayo, secretary and treasurer.

Wisconsin.

MARQUETTE COUNTY MEDICAL SOCIETY.—Physicians of the county met at Packwaukee, September 8, and organized a county society on the standard plan, with the following officers: Dr. William J. Thomson Briggsville, president; Dr. Edward A. Bass, Montello, vice-president; Dr. William O. Dyer, Westfield, secretary and treasurer, and Drs. Thomas Lucast, Endeavor, William O. Dyer, Westfield, and Edward A. Bass, Montello, censors.

Society Proceedings.

COMING MEETINGS.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

The association met in the assembly hall of the New Willard Hotel under the presidency of Dr. Walter Wyman, Surgeon-General of the U. S. Public Health and Marine-Hospital Service, Washington, D. C. The session was well attended and great interest was shown in the various subjects discussed.

Opening Address.

GEN. GEO. M. STERNBERG, in the opening address, referred to the association as an important factor in promoting the welfare of the people of the United States, not only from a sanitary point of view, but also in the way of national prosperity. After speaking of the present status of yellow fever, he discussed the incomplete sewage and water systems of the

city of Washington. The high death rate from typhoid fever, tuberculosis and diphtheria and the excessive infant mortality among the lower classes give to the Nation's capital a mortality rate which does not compare favorably with that of many other cities in this country or in Europe. A law for the condemnation of unsanitary houses is urgently needed. The sewer system should be pushed to completion and the health department should have the authority and the money necessary for the sanitary reclamation of the plague spots which disgrace an otherwise beautiful and healthful city.

Address of Welcome.

This was delivered by Hon. H. B. F. Macfarland, president of the Board of Commissioners of the District of Columbia. He referred to the work of improving the water supply and sewer systems of Washington which is in progress, and also the effort being made to secure legislation to enable the city to end the unsanitary conditions in its slums. It is fully realized that the health of the people is the first duty of the statesman, and that all else that can be done for this or any capital goes for nothing if its health is not protected and promoted.

President's Address.

Following Mr. Macfarland's welcome, Surgeon-General Wyman delivered his annual address, which will be printed in *THE JOURNAL*.

Report of the Committee on Car Sanitation.

This report was read by the Chairman, Dr. Granville P. Conn, Concord, N. H. The committee had no reforms to suggest that would at once settle the much-vexed question, but progress was being made, the opinions of the railroad managers were being molded and the problem was gradually being solved. The travelers have but little or no thought of the sanitation or well-being of those who may be the next passengers to occupy the same seats. The more permanent the means and methods adopted by health authorities, the more satisfactory they will prove to the commercial world and to the general manager.

Transportation of Persons Sick with Transmissible Diseases.

Dr. J. N. HURRY, Indianapolis, read a paper with this title. Public opinion will not tolerate the transportation in railway trains of cases of smallpox, yellow fever, bubonic plague, diphtheria, scarlet fever and leprosy. An understanding of the dangers from pulmonary tuberculosis, influenza and typhoid fever would develop a public opinion demanding of patients having these diseases that rational regulations intended to prevent transmission must be rigidly enforced. Special compartments for persons sick with communicable diseases are impracticable.

Car Sanitation in the Republic of Mexico.

Dr. JUAN BREÑA, Zacatecas, Mexico, said that since infectious germs float in the air and are deposited on moldings and ornaments and are thence again taken up by the air and inhaled, simplicity of ornamentation and smooth polished surfaces have been again and again recommended. He discussed the fittings of railway coaches and urged that, in spite of the lack of attention paid to these suggestions, sanitarians should continue to work for the proper hygienic equipment of railway coaches.

Immigration and Public Health.

Dr. A. J. McLAUGHLIN, Washington, D. C., said that in considering the danger to the public health from immigration three factors must be taken into account. 1. The physique of the immigrant. 2. His destination. 3. The presence or absence of communicable disease. The physique of the immigrant is by far the most important factor. Aliens of a race having a low physical standard almost invariably herd together in the overcrowded, unsanitary tenement districts of the great cities; while the sturdy races of unskilled laborers are scattered over a wide territory and tend to establish homes in the country or in the suburbs of manufacturing towns.

Certain loathsome and dangerous contagious diseases exist among immigrants, and constant vigilance and considerable

skill are necessary to detect them. The most important, because of its frequency, is trachoma. Of the total number of cases of loathsome or dangerous diseases found in immigrants, 87 per cent. are due to trachoma, and 10 per cent. to favus.

The writer concluded that if the thousands of recruits for the sweat-shop army who arrive each year could be checked for ten years the present, existing tenement-house problem would solve itself. The terrible congestion of the tenements would be relieved; the scale of wages for the sweat-shop worker would be elevated, and the general sanitary conditions of life in such districts as in the lower east side, New York City, improved sufficiently to reduce the menace to the public health from this cause to a minimum.

New Officers.

The following officers were elected: President, Dr. Charles J. Finley, Havana, Cuba; vice-presidents, Drs. J. R. Monjaras, Mexico, and W. W. Woodward, Washington, D. C.; secretary, Dr. Charles O. Probst, Columbus, Ohio; treasurer, Dr. Frank W. Wright, New Haven, Conn. The next annual meeting will be held at Havana, Cuba.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City, Oct. 19-22, 1903.

(Continued from page 1108.)

School Hygiene and the Great Need of Regular Medical Supervision.

Dr. H. ERNST SCHMID, White Plains, presented a paper urging all physicians to do their full duty as enlightened citizens and showing how much they might accomplish. He said that the classroom should have a seating capacity of forty pupils with light entering at the side or the side and back, with glass space equal to one-fourth or one-third of the floor space, and with shades working from the bottoms of the windows. The walls should be greenish-gray. He hoped the medical profession would use its influence to secure the passage of a law requiring all schools of the state to be under constant medical supervision.

Sea Bathing.

Dr. R. ABRAHAM, New York, advised sea bathing for pityriasis versicolor, chronic eczema and senile pruritus, and claimed that the results were good, and totally different from those obtained by using salt water in a bathing establishment.

Bacteriology and Pathology of Dysentery in Children.

Dr. WILLIAM H. PARK, New York, discussed this subject. He said that the investigations of the past summer showed that there were several types of cases in that locality, and that cultures from these ordinarily showed a bacillus known as the acid type. The Shiga bacillus was only found occasionally. About 50 cases had been observed, and the serum treatment used in one-half. No very striking results had been obtained, and such improvement as was observed was mainly in the severe cases; nevertheless he thought increasing experience and knowledge would show that the method was worthy of trial. Hitherto it had been assumed that there was but little difference between the two types of bacilli, and that one serum would do for both. By the production of a serum of a wider range of usefulness it was hoped for a corresponding improvement in the results.

Some Less Usual Causes of Post-Operative Elevations of Temperature.

Dr. MARTIN B. TINKER, Clifton Springs, in this paper mentioned among other causes small pulmonary emboli, pericarditis, cerebral embolus, phlebitis and thrombosis affecting the saphenous veins and last, but not least, malaria. The last mentioned should not, however, be diagnosticated unless supported by the detection of the plasmodium in the blood.

Laboratory Aids to Diagnosis for the General Practitioner.

Dr. V. A. ROBERTSON, Brooklyn, said that, aside from the cost of the microscope, the expense of fitting up a laboratory

for the physician was slight, and one would be well repaid for the moderate outlay. Examination of sputa for tubercle bacilli and pneumococci, of the blood for leucocytosis and for the malarial organism, and of the feces in dysentery were examples of the many ways in which the laboratory could aid the practitioner.

Treatment of Puerperal Sepsis.

DR. JAMES HAWLEY BURTENSHAW, New York, in a paper on this subject, opposed sharp curettage. Lacerations should be cauterized and the uterus irrigated, after which a packing of 10 per cent. iodoform gauze should be inserted. Ergot, strychnin, quinin and alcoholic stimulants are indicated, with nutritious diet.

DISCUSSION.

DR. JOSEPH B. COOKE, New York, called attention to the value of holding the fundus of the uterus after confinement as a prophylactic measure.

DR. E. V. DELPHEY, New York, favored using a postpartum douche of hot iodine water as a preventive, and in septic cases, the administration of digitalis.

DR. DELANCEY ROCHESTER of Buffalo spoke of the value of iodine locally before labor, and of iodine water after delivery in cases of known gonorrheal infection.

When and How to Operate for Gallstones.

DR. IRVING S. HAYNES, New York, read a paper with this title. He said that whereas late operations usually had a death rate of 40 per cent., early operations were almost always successful. In endeavoring to make an early diagnosis it should be borne in mind that biliary colic and jaundice were commonly absent, and that the patient would probably complain of digestive disturbance, with a dull pain and perhaps some tenderness in the vicinity of the gall bladder. Ochsner found jaundice absent in 75 per cent. of his cases. The pain is usually referred to the epigastrium and there is often a point of tenderness an inch and a half to the right and above the umbilicus. Severe colicky attacks are absent in about half of the cases. As ideal conditions are rarely present the surgeon is often called on to simply incise and drain the gall bladder.

The Past and Present Needs of the Medical Profession.

DR. FREDERICK HOLME WIGGIN, in his presidential address, thought it would be very useful if our medical schools would teach their students something of the history of medicine. The profession sadly needs organization, but if this is to be done properly, physicians must have a better understanding of the fundamental principles of organization and possess a deeper sense of individual responsibility. The organization of the future must be powerful enough to check the further demoralization of the public by a continuance or extension of the abuse of medical charity; it must discountenance contract practice at ruinous rates and must defend its members against unjust attacks on their professional honor and standing. The American Medical Association should be incorporated by the national government in order not only to give the necessary dignity but to facilitate the transaction of business in any state. The American Medical Association should at stated intervals publish a national medical directory from data furnished by the component societies. A great step ahead had already been taken by the agreement of the two state medical organizations of New York to combine into a society worthy of the Empire State.

Sewage Disposal as a Means of Purifying the Water Supply of the Cities and Towns of the State.

DR. CHARLES B. TEFFT, Utica, showed how easy and inexpensive it is for even the farmer to protect himself and his neighbors by means of an apparatus for intermittent sand filtration.

The Treatment of Pneumonia.

DR. DELANCEY ROCHESTER, Buffalo, in this paper, laid down the following indications for treatment: (1) To relieve toxemia; (2) to prevent failure of the heart, and (3) to meet complications as they arose. The first indication was met by the use of foot baths or other means of securing free sweating

without disturbing the patient, and by giving a daily dose of a saturated solution of sulphate of magnesium. A careful physical examination of the chest should be made at every visit in order that the physician may have early warning of the occurrence of pulmonary congestion. Should this occur, it could often be checked by prompt and vigorous use of wet or dry cups or by venesection. The cups should be left on for half an hour and should be reapplied at intervals of four or six hours. The poultice jacket should be relegated to the dark ages. When the heart threatened to fail, saline infusion or hypodermoclysis should be resorted to, and this might be reinforced by the hypodermic use of strychnin, or the administration of alcohol by the mouth. If the alcohol caused excitement, ammonia should be substituted. If the bowels and skin were kept active, hypnotics would rarely be required. As an evidence of the value of the treatment thus outlined, Dr. Rochester said that there had only been 23 deaths in 210 cases.

DISCUSSION.

DR. A. ALEXANDER SMITH, New York, preferred venesection to cupping because less disturbing to the patient. He had given both the salicylate and the creosote treatment of pneumonia a fair trial, and had obtained only negative results from the former, while the latter had only proved of benefit in cases associated with general bronchitis. He did not like to give the plunge bath to pneumonia patients, but did favor the use of a wet pack at 80 F. or higher. He believed oxygen to be a valuable therapeutic agent in pneumonia, and nitroglycerin and other vasodilators of value when cyanosis was present.

DR. W. P. NORTHRUP, New York, spoke strongly against the still common custom of applying a jacket poultice. Such an application was particularly unsuitable in the case of weak and feverish children. The plunge bath had proved useful in his hands in the treatment of alcoholic pneumonia.

Dysmenorrhea.

DR. CHARLES BONIFIELD, Cincinnati, after enumerating the causes, said that if the pain is in the hypogastric region, it points to a uterine origin; if the suffering is greater during the flow there is probably a constitutional cause. If the pain is in the iliac region disease of the adnexa may be inferred. The coal-tar products are useful in these cases, and a combination of atropin and sodium bromid had been very successful in his hands. When there is defective development, dilatation of the cervix, curettement and packing of the uterus are indicated.

(To be continued.)

MANILA MEDICAL SOCIETY.

Regular Monthly Meeting, held at the Government Biological Laboratory, Sept. 7, 1903.

The meeting was a very enthusiastic one and was largely attended. There were 46 physicians present, probably the largest body ever gotten together in the Philippine Islands for scientific deliberation. The following papers were read:

Protective Inoculation Against Cholera.

DR. R. P. STRONG considered this subject under several headings, briefly summarized as follows: The work previously done on artificial immunity by Ferran, Haffkine, Kolle, Buchner, Metchnikoff, Roux and others was considered. While it is admitted that Haffkine's method, when properly applied, gives rise to good immunity in the inoculated, the local reaction is too great for the method ever to come into general use. Subcutaneous injection of either living or dead cholera vibrios produces more marked general symptoms and local reaction than does the injection of either killed plague or typhoid bacilli. The location of the specific toxin was next considered and evidence brought forward to show that the substance existed as an integral part of the living organism, and was set free only by the death of the same. In the author's form of inoculation, the cholera "receptors" were obtained from bodies of the bacteria by means of autolytic digestion. The proteolytic ferment produced by this organism brings about this result in a very satisfactory manner. This ferment is not destroyed at 60 C., and, therefore, the bacteria may be killed by careful heating from one to two hours and digested from two to five

days by this ferment, and then passed through a Reichel filter. Such a filtrate when injected into animals gives rise to autotoxic, bactericidal and agglutinative substances in their blood serum, and, moreover, protects them from the injection of fatal doses of living cholera spirilla. As the local reaction produced is very mild, such a filtrate offers itself as a practical form of protective inoculation in man. This filtrate may be evaporated and used in powdered form.

Tropical Influence on Diseases of the Oral and Dental Tissues.

LOUIS OTTOFY, D.D.S., brought out the following points in his paper: In natives the diseases of the soft tissues of the mouth show no marked variation from diseases of the same tissues in other climates. The teeth of native children, as shown by statistical comparison with the teeth of Americans, Germans, English, etc., show the same proportion of caries as exists in the latter. In adults, the condition is said to be better, partly due to smoking, a habit acquired early and indulged in by both sexes. Their teeth are subject to betel erosion, due to chewing betel nut. Unacclimated foreigners are subject to considerable derangement of the system and likewise of the soft tissues of the mouth, among them a form of ulcerative stomatitis termed stomatitis ulcerativa tropica. The soft tissues, as a rule, yield more slowly to treatment, which is also true of diseases of the dental pulp, alveolar abscess, etc. The influence on the teeth themselves is only slight, and becomes almost nil with complete acclimatization. In the case of acclimated foreigners, aside from liability to diseases and their slower termination, no special differentiating features are noticeable.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Gonorrhea.

W. H. Whitehead, in *Ther. Gazette*, states, when a patient comes to him with an acute case of gonorrhea, that he instills into the urethra a salve rather than an astringent wash. He instructs the patient to instill one-half a dram of the following after urinating:

R. Hydrarg. ovidi flavi.....gr. xx	1	30
Acidi oleici	30	
Argentii oxidi.....3ii	8	
Pulv. pepsini		
Pulv. caroid, aa.....3iv	15	
Albolini		
Lanolini		
Aquæ, aa.....5ii	60	

M. Sig.: One-half a dram to be introduced into the urethra night and morning.

Absorbent cotton is then placed over the penis to catch the salve that returns; tie it loosely and instruct the patient to keep it on until he is compelled to urinate.

Internally he gives the following:

R. Olei santali	3iv	15
Pulv. cubebæ		
Acidi benzoici, aa.....5i	30	
Pulv. pepsini	3iv	15

M. Ft. cachets No. xxx. Sig.: One before meals and at late bedtime.

In preparing the salve the oxid of mercury and silver must be rubbed up together and then dissolved in the oleic acid and later adding the liquid albolene; then add the lanolin, and finally dissolve the pepsin and caroid in the water and filter through absorbent cotton and add to the salve and triturate until a creamy mass is obtained. Care must be observed in the mixing in order to obtain a smooth salve.

The salve, according to the author, is penetrating because of the presence of the liquid albolene, and germicidal owing to the mercury and silver. It digests the fibrous exudates out

of the follicles and permeates the inaccessible germ-infected recesses. He claims, by this method of treatment, that he seldom has a backward extension as so frequently occurs under irrigation and injection treatment. The salve is painless and all discharge is arrested by a two or three days' use of it. When the discharge ceases and the urine becomes clear the local treatment is suspended, but the interval treatment is continued for ten days. If the discharge returns the salve will soon check it. In treating a female use the salve in larger quantities, but only once a day, putting a plug of cotton saturated with the salve well up in the vagina, if it alone is involved, and allow it to remain for twenty-four hours. Instruct the patient to remove it and take a hot salt-water douche just previous to her taking another application. If her urethra is involved the internal treatment should be given also, and also deposit the salve into the urethra once a day. The results of the treatment in the female is even more satisfactory than in the male.

Lead Colic.

The medicinal treatment, according to Yeo, consists in: 1. Relieving the constipation and pain. 2. In promoting elimination of the lead from the body. To relieve the pain the following is recommended:

R. Linimenti opii	
Linimenti belladon., aa.....5ss	15

M. Sig.: To be rubbed in freely around the navel.

An enema of soap and water, one or two pints, to which has been added an ounce (30.00) of castor oil, one half ounce (15.00) of turpentine and twenty minims (1.30) of laudanum, should be given in some cases to relieve the pain and increase the elimination. The following is recommended by the author as an aperient:

R. Mag. sulph.	
Sodii sulph., aa.....5iss	45
Acidi sulphurici arom.	3i
Syr. zingiberis	5ss
Aq. cinnamomi q. s. ad.....5xii	360

M. Ft. mistura. Sig.: Four teaspoonfuls every hour until bowels have moved thoroughly.

To procure elimination potassium iodid must be given combined as follows:

R. Pot. iodidi	gr. xl	2	65
Mag. sulph.	5i	30	
Tinct. nucis vom.	3ii	8	
Aq. cinnamomi q. s. ad.....5viii	240		

M. Ft. mistura. Sig.: Two tablespoonfuls night and morning.

The following mixture containing alum is recommended by Bartholow in the treatment of lead colic:

R. Alumenis	3ii	8
Acidi sulphurici	3i	4
Syr. limonis	5i	30
Aquæ q. s. ad.....5iv	120	

M. Sig.: One tablespoonful every two hours.

The following treatment has also been recommended for the treatment of lead colic:

R. Pulv. opii	gr. 1/4	0	15
Ext. belladonnæ	gr. 1/12	0	05

M. Sig.: One such pill every two hours for twenty-four hours.

And the following purgative:

R. Sodii sulph.	3ii	8
Mag. sulph.		
Syr. rubi idaei, aa.....5ss	15	
Aquæ	5iii	90

M. Sig.: At one dose, to be repeated as necessary.

Puerperal Insanity.

The *Amer. Jour. Med. Sciences* gives an abstract of the treatment of puerperal insanity as recommended by E. W. White in *British. Med. Jour.* As soon as the premonitory symptoms are observed, according to this author, such as change in manner and feelings, quiet surroundings must be obtained and skillful supervision enforced to guard against infanticide or suicide. Enemata and milk aperients should

be given for the bowels and the following combination given at night for the insomnia:

R. Pot. brom.		
Chloralis hydratis, āā.....gr. xxx	2	
Elix. simplicis	5ss	15

M. Sig.: At one dose.

The foregoing may be repeated twice or three times daily if acute maniacal symptoms are present, guarding against overdosing. Later on the following mixture may be substituted as a hypnotic:

R. Trional	gr. xx-xxx	1.30-2
Paraldehyde	5iiss-ii	6-8

M. Sig.: At one dose for sleep.

Opium preparations should be avoided, unless the mental symptoms, when well established, are of a maniacal character, when opium preparations are given along with proper stimulants. He recommends in such conditions the following combination:

R. Liq. morph. acetatis (1 per cent.) m. xx	1	30
Spts. etheris	m. xv	1
Aquæ camphoræ	3i	4

M. Sig.: One such dose three times a day.

Every effort should be made to re-establish the suppressed menstrual flow, such as the administration of iron, hot baths, aloes and ergot. Olive oil will aid in preventing loss of weight, as will alcohol.

Migraine.

Ratchvord, in *Medicine*, recommends the following combination in the treatment of migraine:

R. Sodii sulph.	5ss	2
Sodii salicylatis	gr. x	65
Mag. sulph.	gr. l	3
Lithii benzoatis	gr. v	30
Tinct. nucis vom.	m. iii	20
Aquæ destil.	5iv	120

M. Sig.: To be placed in a siphon bottle and carbonated, and a small amount, sufficient to produce a laxative effect, taken daily before breakfast.

Erysipelas.

As a local antiseptic dressing in the treatment of erysipelas the following is recommended by Stroell in *Amer. Med.*:

R. Acidi carbol.		
Tinct. iodi, āā.....gr. xv	1	
Mucil. acaciæ	3i	4
Alcoholis (pure)	5v	20

M. Sig.: Shake and paint over the affected area every two hours until the swelling and shiny redness have disappeared.

Acute Rheumatism.

The following combination, according to Peabody, is of value in the treatment of acute rheumatism:

R. Acidi salicylici	5ss	15
Ferri pyrophos.	5i	4
Sodii phosphatis	5x	40
Aquæ	5vi	180

M. Sig.: One tablespoonful every two hours well diluted in water.

Eye Bruises.

The following combinations are recommended by *Merck's Archives* in the treatment of "black eye":

R. Ammon. chloridi		
Alcoholis, āā.....	5i	30
Aquæ	5x	300

M. Ft. lotio. Sig.: Apply locally; or:

R. Acidi acetici dil.	5v	150
Tinct. arnicæ	5i	30
Ammon. chloridi	5i	30
Aquæ	5v	150

M. Ft. lotio. Sig.: Apply locally; or:

R. Pot. nitratis	gr. xv	1
Ammon. chloridi	5ss	2
Acidi acetici dil.	5iv	15
Aquæ q. s. ad	5viii	240

M. Sig.: To be locally applied.

In burns the following combinations are recommended by the same periodical:

FOR BURNS OF THE FIRST DEGREE.

R. Thymol	gr. x	65
Olei lini	5iv	120
Sodii bicarb.	5ii	60
Aquæ calcis	5iv	120

M. Sig.: Shake, cover the affected areas liberally with this preparation and cover with borated cotton; or:

R. Ext. opii	gr. v	30
Ichthyol		
Liq. petrolati		
Lanolini, āā.....	5iii	12

M. Sig.: Apply on lint.

If the burns are extensive the amount of opium should be diminished.

FOR BURNS OF THE SECOND DEGREE.

R. Airol	5i	4
Lanolini (anhydrous)		
Vaselini, āā.....	5iv	15

M. Sig.: Apply locally.

[Airol is bismuth oxyiodogallate. It is an odorless, grayish-green powder, tasteless insoluble in water or alcohol. It is a valuable local antiseptic.]

R. Xeroform	5i	4
Olei lini	5iiss	10
Solutionis plumbi subacet.	5iiss	6

M. Sig.: Apply freely on gauze.

FOR BURNS OF THE THIRD DEGREE.

R. Ichthyol	gr. xlv	3
Olei olivæ	5iiss	10
Liq. petrolati		
Lanolini, āā	5ix	270

M. Sig.: Apply locally.

Lactic Acid in Pruritus.

M. de Castle, according to an abstract in *Med. Rev. of Reviews*, has found that general pruritus in children rapidly disappears on the administration of lactic acid internally. He recommends it in doses of minims fifteen (1.00) daily, and for small children minims ten to fifteen (.65-1.00) of a 1 per cent. solution in divided doses during the twenty-four hours.

Chorea in Children.

The following outline of treatment is recommended by *Jour. des Pract.* in the treatment of chorea:

R. Antipyrini	5iiss	10
Syr. aurantii corticis.....	5viii	240

M. Sig.: One dessertspoonful every two hours.

In addition the following should be given in the form of a suppository:

R. Quin. hydrobrom.	gr. ivss	27
Ol. theobromæ q. s.		

M. Ft. suppos. No. i. Sig.: One such to be introduced at night in cases of children 6 years of age or older.

The substitution of arsenic for antipyrin is recommended at the end of a week or ten days:

R. Sodii arsenatis.....	gr. 1/3	102
Aq. destil.	5viii	240

M. Sig.: One dessertspoonful, well diluted, twice daily after meals.

The use of the cold pack and tepid baths are also recommended in the treatment of chorea.

Malbec, in *La Med. Moderna*, advises the following combinations in the treatment of chorea:

R. Salipyrini	5iiss	10
Strontii brom.	5v	20
Syr. aurantii corticis	5iii	90
Aq. calcis	5vi	180

M. Sig.: One teaspoonful in water after each meal.

The following may alternate with the above or substitute it:

R. Ferri glycerophos.	gr. lxxv	5
Syr. aurantii corticis	5iii	90
Vini quiniæ		
Vini kolæ, āā.....	5vi	180

M. Sig.: One wineglassful after each meal.

[The wine of kola and of quinin are not standard preparations.]

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Kansas—Prohibition as to Exhibitions of Hypnotism.—Chapter 219 of the Laws of Kansas of 1903 provides that any person who shall induce or permit any child under 18 years of age to practice or assist or become a subject in giving public exhibitions of hypnotism, mesmerism, animal magnetism or so-called psychical forces shall be guilty of a misdemeanor, and on conviction be fined or imprisoned, or both.

Kansas—Prohibition of Marriage in Certain Cases.—The bill to prevent marriage of defectives, given in full on pages 788 and 789 of THE JOURNAL, March 21, 1903, is made Chapter 220 of the Laws of Kansas of 1903, entitled "An act regulating marriage and prohibiting marriage by or with persons afflicted with imbecility, feeble-mindedness, epilepsy or insanity, and prescribing penalties . . ." for violation of the act.

Kansas—Authorizes Temporary Permits to Practice.—Chapter 358 of the Laws of Kansas of 1903 provides that the secretary of the State Board of Medical Registration and Examination may in his discretion issue a temporary permit to practice medicine or surgery to any person who shall have made application in writing to said board for license to practice, accompanied by the prescribed fee, and proof as required by Section 3 of Chapter 254 of the session laws of 1901, and who shall be a graduate of any legally chartered medical institution of the United States or any foreign country; or such permit may be so issued to any such applicant for license, complying with said conditions, who is shown to have been licensed by the board of registration and examination in any other state or territory of the United States or any foreign country whose standards of qualification for practice are equivalent to those of Kansas. Any such temporary permit so issued shall, when recorded in the office of the county clerk of the county in which he resides, authorize the person receiving the same to practice in the same manner as a permanent license up to the next regular meeting of the board; provided, that not more than one temporary permit shall be issued to any one person, nor shall any permit be extended beyond the time herein limited.

Nebraska—Control of Contagious Diseases.—Chapter 59 of the Laws of Nebraska of 1903 provides that the State Board of Health shall have supervision and control of all matters relating to the protection of the people of the state from contagious, infectious and epidemic diseases. It shall make careful inquiry into the cause of the various contagious, infectious, epidemic and endemic diseases, and shall take prompt action to suppress and control the same. The reports of births and deaths, the sanitary conditions of localities and of employments, the personal and business habits of the people and the relation of the diseases of beast and man shall be the subject of careful study by the board, and it shall make and enforce orders necessary to protect the people against diseases of lower animals. It shall collect and preserve such information as may be useful in the discharge of its duties, and for dissemination among the people. It shall be the duty of all boards of health, and of physicians in localities where there are no health authorities, or where such health authorities fail to act, to report to it promptly on the discovery thereof, the existence of Asiatic cholera, yellow fever, smallpox, scarlet fever, diphtheria, typhus and typhoid fever, and such other diseases as it may from time to time specify.

Nebraska—Grounds for Revocation of License.—Chapter 61 of the Laws of Nebraska of 1903 amending Section 14 of Article I of Chapter 55 of the compiled statutes, title "Medicine," provides that the board may refuse to issue a certificate or may revoke one already issued for any of the following causes: The employment of fraud or deception in applying for license on diploma or in passing the examination provided for in this act; conviction of crime involving moral turpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants; unprofessional or dishonorable conduct. The words "unprofessional or dishonorable conduct,"

as used herein, are declared to mean: First, the procuring or aiding in procuring a criminal abortion; second, the obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured; third, betrayal of a professional secret to the detriment of a patient; fourth, causing the publication and circulation of advertisements of any medicine or means whereby the monthly periods of women can be regulated or the menses can be established, if suppressed; fifth, causing the publication and circulation of advertisements of any kind relative to diseases of the sexual organs tending to injure the morals of the public.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 24.

- 1 *President's Address, Tri-state Medical Society of Iowa, Illinois and Missouri. Alexander Hugh Ferguson.
- 2 *Cancer of the Prostate. Robert H. Greene.
- 3 *The Differential Diagnosis Between Friedreich's Disease and Insular Sclerosis. F. Savary Pearce.
- 4 Radium in Medicine. Samuel G. Tracy.
- 5 Tubal Pregnancy; Report of Cases. Mary D. Rushmore.

1. **Conservatism of Ovaries and Tubes.**—After discussing the reproduction of defectives and advocating legislative restriction of marriage of defectives, Ferguson describes the operation of hysterosalpingostomy and salpingostomy. The indication for the former is an obstruction of the proximal end of the fallopian tube due to chronic inflammation or myoma. Age must be considered. Only patients in the reproductive periods of life should be operated on, and even if near the menopause the power to become pregnant should be retained. There would be no object in performing the operation where both ovaries are destroyed. The first thing is to determine whether the tube is obstructed at its proximal end by inability to pass a probe or force air through it, and remove the obstructing portion including the horn of the uterus down to the uterine mucous membrane, taking care not to involve the vessels immediately below the fallopian tube. Split the proximal end of the remaining portion of the tube about half an inch. Pass a mattress suture through the uterine wall from the serous to the edge of the mucous surface, continue it through the one-half of the split proximal end of the tube from serous to mucous surface and then back from mucous to serous surface of the uterine wall. Deal in a similar way with the other half of the split end from the opposite surface of the uterine wall. Traction is now to be made on these two mattress sutures and the fallopian tube is thus drawn into the wound in the uterus, its mucous membrane becoming continuous with that of the uterus, and its serous surface coming in contact with the raw tissue on each side. The sutures are then tied. Pass two or three interrupted sutures above and internal to the tube to close the uterine wall, taking care not to constrict the tube. The stitch next the tube must grasp its outer coats, so as to secure more firmly its position. All the sutures are made with chromicized catgut No. 0. This insures patency and fixation of the tube. For salpingostomy determine if the tube is obstructed by inability to pass a probe or force air. Remove the obstruction together with the distal end of the tube diagonally across the tube from above downward and outward leaving a projecting mucous membrane and as large an opening as possible. On the superior surface of the tube pass a suture through the serosa a short distance from its free edge and continue it through the mucous coat close to the edge. Pass a similar suture on the inferior and lateral surfaces sufficient to ensure a perfect union of the mucous surface. A probe can now be passed through the opening into the tube and uterine cavity. Thorough asepsis, of course, must be secured. Vaginal section is not suitable for this method; it is necessary to enter the abdominal cavity suprapubically. Several cases are reported.

2. **Cancer of the Prostate.**—Green has thoroughly studied the literature of this subject and is inclined to think it probable

that cancer occurs in as high as from 5 to 10 per cent. of old men suffering from prostatic disease. The frequency and rapidity of the glandular infection have been generally noticed by others. The average age is over 50 years and in one series as high as 68 years. In the majority of cases symptoms pointing toward trouble with the prostate existed for some time before the cancer developed. Cachexia is of similar value; often it appears comparatively suddenly in old prostatics without reason to account for it. Pain is almost an invariable accompaniment. It may be referred to the prostate, rectum, back or other parts. Hemorrhage is frequent, but not so much so as pain. It occurs perhaps in 50 per cent. of cases. The amount of residual urine is of no particular diagnostic value. The prognosis is always grave, though cases have occurred where operation has caused great improvement. He reports cases in which there has been no recurrence for over a year. He says as regards preventive treatment that if gonorrhea can be avoided, the chances for cancer will become much less frequent. In the majority of cases metastasis has already taken place and the system become infected before cancer is diagnosed. The operative treatment can then be only palliative. The chances of recognizing the condition early enough to operate before metastasis gives the only hope for cure. Quite a complete bibliography is attached.

3.—This article was abstracted in *THE JOURNAL* of October 31, p. 1104.

Medical Record, New York.
October 23.

- 6 *Prostatectomy and Galvanocautic Prostatotomy (Bottini's operation); Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland. Willy Meyer.
- 7 *The Roentgen and Finsen Rays; Electrolysis; Galvanism; Faradism; High-tension Discharges, and Diagnostic Illumination. Sinclair Tousey.
- 8 *The Choice of Method for the Relief of Retroversion and Retroflexion. John Van Doren Young.
- 9 *The Non-medicinal Treatment of Constipation. Samuel G. Gant.
- 10 *The Frequency Wave of Epileptic Seizures. William P. Spratling.

6.—See abstract in *THE JOURNAL*, xl, p. 1670.

7. The X-Rays.—Tousey gives a description of the apparatus and technic in use for the x-rays and Finsen rays in ordinary office practice using the commercial current. The cost of such a current is very small, not more than five to ten cents an hour for the x-rays and vacuum tube work, and next to nothing for galvanic and faradic work. The apparatus is always in working order and has great advantages over the static machine.

8. Retroversion and Retroflexion of the Uterus.—The anatomic conditions and cause of these abnormalities are described by Young as also the treatment. The deductions from his study of the subject are given as follows:

1. Retroversion and retroflexion are never simply malpositions of the fundus, but complex changes in the relation of the whole uterus to the other structures in the pelvis and to the pelvic wall.
2. The uterosacral ligaments are the only suspensory ligaments of the uterus when the patient stands, and are the only ligaments not affected by gestation or parturition.
3. The uterosacral ligaments suspend the uterus by their attachment to the lower segment and act as a swing in supporting the rectum. Factors causing the yielding of these ligaments are: Injuries to pelvic diaphragm; increased intra-abdominal pressure; constipation; straining at stool; injuries to the rectovaginal septum, causing retraction of anus, with rectocele.
4. Any method for the relief of these conditions must consider and relieve all the complicating lesions, not the least of these the pathologic condition of the endometrium.
5. All methods for holding the fundus forward must rely on the integrity of the uterosacral ligaments, together with the fibrous connective tissue of the broad ligaments to suspend the uterus.
6. Non-operative measures are applicable to acute traumatic and replaceable non-complicated cases and depend for their value on relief of pelvic engorgement, the restoration of normal circulation and the return of normal elasticity and tone to the ligaments and muscular structures.
7. The Alexander operation has a limited field of usefulness, and is of value only when there is retroflexion and the other ligaments are strong enough to support the uterus, with proper relief of other complications. It must never be forgotten that traction on the round ligaments tends to lower the plane of the uterus.
8. Ventral suspension, when performed in combination with other procedures, does relieve the malposition and prevents a recurrence of the same. Its dangers, when properly performed, are small. If any, in subsequent pregnancies. The advantages of the operation are the ease and rapidity of its performance.
9. Ventral fixation is applicable only when the patient has passed the child-bearing period.

10. The ideal procedure is as follows: Curettage; repair of injuries to the cervix, retrovaginal septum and anterior wall of the vagina. Laparotomy. Sacrosuspension. Bissell operation. The disadvantages are the length of time necessary for the operation and its difficulty of performance in fat subjects.

11. In place of the Bissell operation, a ventral suspension may be substituted. This, I believe, is wise when many adhesions have been broken up and the posterior surface of the uterus is denuded of peritoneal covering or the patient's condition demands haste.

12. In nullipara a pessary should be worn for six months to prevent traction on the uterosacral ligaments until they have regained their tone. The action of the pessary is due to the fact that, resting on the superior surface of the symphysis, the lower segment of the uterus is held upward and the strain taken off the uterosacral ligaments. The rectocele, when no lacerations exist, is in this manner lessened.

13. The uterus should be curetted as the first step in any of these operations.

14. The adhesions so frequently found in these cases are of the greatest value to the patient, in that they fulfill a munificent purpose of nature in preventing the condition of complete prolapse during the existence of the malposition.

9. The Non-Medicinal Treatment of Constipation.—Gant favors the non-medicinal treatment of constipation, advocates the proper education of the patient, drinking of plenty of water, regularity of habits, condemns enemata, and says that massage intelligently practiced is essential. Electricity has been highly spoken of, but he is not prepared to say that it alone is efficacious. Divulsion of the sphincter may be required in either adults or children when the muscle has become hypertrophied or irritable and there is obstruction. Valvotomy by the method of Martin is occasionally indicated, but requires too many manipulations and instruments, too much time involves considerable danger of hemorrhage, infection and peritonitis besides causing serious confinement and discomfort of the patient. He favors for most cases the technic of the clamp operation; thus inserting his clamp which divides the valves from the fourth to sixth day and is discharged with the feces carrying the section of tissue within its grasp. It has the advantage that it can be painlessly applied in one to five minutes. There is no danger of hemorrhage, infection or complications. No dressings are required. The patient is not subjected to discomfort, need not be restricted as to diet, and in his experience it has been more effective than other procedures as it removes a section of tissue nearly half an inch wide and about an inch long. He illustrates the method showing the insertion of the clamps through the proctoscope, and their application to the Houston valves. In his experience non-medicinal treatment has been far more effective than the medicinal.

10. Epileptic Seizures.—Spratling finds that in 1,374 cases at the Craig Colony the approximate frequency of the attacks was weekly or oftener in 775 cases, every two weeks in 173, every three weeks in 61, and every four weeks in 244, every eight weeks in about 42, and every twelve weeks in about 49. It is safe to say, he says, that fully 50 per cent. of all confirmed epileptics have an attack weekly or oftener. A notable decline begins after the first-week period and continues up to the eighth-week period. This increase at the fourth week is due to the fact that serial attacks in many female epileptics group themselves about the time of the menstrual flow. Those in the six months' period, and there are a few that go longer, are classed as occasional epileptics; they scarcely ever show the mental impairment of the ordinary idiopathic cases. He suggests that this wave of epileptic frequency can perhaps be found to have a relationship with more or less rhythmic intoxication of the central nervous system.

Boston Medical and Surgical Journal.
October 22.

- 11 *Further Observations on Cervical Dislocation and Its Reduction. G. L. Walton.
- 12 *Lesions that Augment the Development of Tetanus and Other Infections in Gunshot Wounds. Louis A. LaGarde.
- 13 The Plague of Athens. Charles Greene Cumston.
- 14 *The Condition of the Vasomotor Neurone in "Shock." W. T. Porter and W. C. Quinby.
- 15 *A Hitherto Undescribed Membrane of the Eye and Its Significance. Frederick H. Verhoeff.

11. Cervical Dislocation.—Walton refers to his former papers (*Boston Med. and Surg. Jour.*, March 21, 1889, and *Jour. Nerv. and Mental Dis.*, 1889). He remarks that the frequency of the accident is shown by the fact that in addition to the eight cases previously published he has observed at least as many others not deserving of special mention from their peculiarities.

He has made a careful study of the vertebræ which leads him to the conclusion that dorsolateral flexion, combined if necessary with slight rotation (to enable the upper articular process to pass the brim of the lower articular process), would fulfill the requirements of replacing the dislocation, the vertebra being afterward rotated into place as by the old methods. This was first suggested by Dr. Richardson. Of the 7 cases which have come to his knowledge since proposing this method 2 have been replaced in sleep, 3 during etherization and 2 by the operation itself. He reviews the mechanism of the dislocation, calling attention to the fact that the articular processes in the cervical vertebræ are so nearly horizontal that one can readily slip forward over that of the vertebra below and fall into the intervertebral notch without necessarily compressing the cord so as to produce paralytic symptoms. If the left articular process has slipped down into the notch, the head will be tilted to the left, the face being still rotated to the right in case of left dislocation. If the articular process has become caught on the crest of the process below, the head will be tilted to the right as well as rotated to the right. The side on which dislocation has occurred can always be determined by the direction of the rotation; the question whether the articular process has slipped into the notch, which is of secondary importance, can be determined by the tilting of the head. In case bilateral dislocation has occurred, the head will be carried forward and tilted directly backward. The only conditions which are likely to be confused with this cervical dislocation are torticollis and vertebral disease. The former may be determined by contraction of the sternomastoid. In cervical cases the history is the important diagnostic factor. He gives an illustration showing the method of reduction. The patient should be in a sitting posture for the operation. The head should be rocked, but without traction, for traction only lessens the effectiveness of the fulcrum necessary to reduction.

12. Gunshot Wounds.—LaGarde describes the conditions which seem to affect the infection in gunshot wounds and shows the result of experimentation made by firing bullets at varying velocities into animals in which the skin had been well rubbed with finely powdered charcoal. The lodgment of the bullet seems to add but little to the susceptibility to infection, and the special lesions from a ball with a certain degree of velocity as it passes through tissues are necessary to augment the susceptibility to infection. These lesions partake of the nature of hematoma. The extent of the hematoma increases with the velocity of the projectile to a marked degree, and the caliber of the ball also has a decided effect. The fissuring extending laterally from the channel track is another important factor, aside from hematoma. Burned areas are much more susceptible to tetanus infection than simple incisions. It is hopeless to disinfect a channel made by a bullet and the wounds treated by simple dressings did best of all, in Müller and Küller's experimental research, while those treated by radical measures, thermocautery, etc., gave evidences of suppuration in every instance.

14. Shock.—Porter has experimented as to the production of shock after stimulation of the depressor nerve, and concludes that exhaustion in the vasoconstrictor neurons can not be the essential cause of the symptoms.

15. A New Membrane of the Eye.—Verhoeff announces as a result of his studies:

In the pigment layer of the retina there is a fenestrated membrane, identical in structure and staining reactions with the membrana limitans externa.

The rods and cones are not nervous elements, but modified ependymal cells, and are analogous to sensory epithelium.

The limiting membrane of the rosettes of glioma retinae is a fenestrated membrane, similar in every way to the membrana limitans externa, and the rosettes correspond to the neuro-epithelium of the normal retina.

The structure of the limiting membrane of rosettes explains why they assume their characteristic spherical and spiral-like forms. "Neuro-epithelioma retinae" is no more suitable than "glioma retinae" for the class of tumors to which these terms have been applied.

Medical News, New York.

October 24.

- 16 *The History of the Tuberculosis Work at Saranac Lake. E. L. Trudeau.
17 *Congenital Hypertrophic Stenosis of the Pylorus. B. G. A. Moynihan.

- 18 *Timely Operation in Primary Appendicitis. William H. Wathen.

- 19 The Hypodermatic Use of Adrenalin Chlorid in the Treatment of Asthmatic Attacks. Jesse G. M. Bullowa and David M. Kaplan.

16. Tuberculosis.—Trudeau's lecture is the first of a series to be given by the Henry Phipps Institute and describes the history and development of the Adirondack Sanatorium. See editorial last week.

17. Pyloric Stenosis.—Moynihan describes the symptoms and morbid anatomy of pyloric stenosis, the child being at birth usually well nourished and of normal weight, but soon after, sometimes the first day and sometimes several weeks later, the patient begins to vomit and no measures such as change of food, etc., suffice to relieve this condition. The vomited matters are very slightly altered from their condition when swallowed and bile is never present. As soon as milk is taken it is ejected with considerable force. The temperature is subnormal, constipation invariable, abdomen collapsed, and the condition rapidly changes for the worse. The morbid anatomy always shows the same condition: an enlarged and thickened stomach, pyloric region altered with funnel-shaped circular thickening. The stomach curiously resembles the dissected-out bladder and prostate. The causation of the condition is obscure. In some cases the use of a nasal tube and washing the stomach relieves, but in a large proportion surgical measures alone will succeed. The operations are Loreta's operation of dilatation, pyloroplasty as advocated by Dent, and gastro-enterostomy. Which of these will be the generally accepted procedure it is impossible to say, but the statistical results up to the end of 1902 show that pyloroplasty had been performed three times, successfully, and in a fourth case, supplemented by gastro-enterostomy, with good results. Gastro-enterostomy, always anterior, was performed 9 times; 5 recoveries, 4 deaths. In one case the death was due to acute obstruction caused by a Murphy button used in anastomosis. Loreta's operation had been performed 9 times with 7 recoveries.

18. Appendicitis.—Wathen pleads for early operation. When the diagnosis is made the case should be operated on before further involvement. When the case has gone beyond the primary and timely stage he thinks it would be best to wait until the abscess is walled off in many cases, but not to let the patient go on to another attack. In many cases of inflammatory or purulent condition in the pelvis, he has found appendiceal involvement, but usually no necrosis. He thinks in such cases the appendix should be removed as it adds but little to the danger of any operation and does away with a condition that may cause future trouble.

American Medicine, Philadelphia.

October 24.

- 20 *Treatment of Abscess of the Liver. Thomas L. Rhoads.
21 *Injection of Paraffin for the Correction of Deformities. A. W. Morton.
22 *The Susceptibility of the Negro to Tuberculosis. Thomas D. Coleman.
23 Hernia of the Vermiform Appendix and the Removal of the Appendix During Operations for Right Inguinal Hernia. John G. Sheldon.
24 *Funic Pulsations; When to Ligate the Cord. William H. Good.
25 Hay Fever: A Discussion of Our Present Knowledge of the Disease, with Special Reference to Etiology and Therapy. Raymond Wallace.
26 Medical Advancement. William M. Welch.

20. Liver Abscess.—Rhoads criticises the use of aspiration in liver abscess on account of its uncertainty, and the danger of withdrawal of the infected end of the needle through the liver tissue. He prefers to diagnose by careful percussion and observation for tender spots, followed by exploratory incision, if required. After the location of the pus he would open and clear out the cavities and use rubber and gauze drainage. The most serious cases are where the thorax has to be opened and one or two ribs resected which is necessary for good drainage. The technic employed is described in full detail and can not well be reproduced. He gives morphin and atropin to relieve pain after the operation, and if much blood has been lost saline transfusion, with the application of dry heat and an enema of hot coffee for shock. Free discharge will necessitate change

of dressings about eight hours after operation. On the following five days the dressing is changed twice a day, the patient being removed on a litter into another room so that the bedding and mattress can be aired. During the first six days, while the fibrous adhesions are forming, the patient is kept mildly under the influence of an opiate; the effects on the nervous system will determine the dosage. On the sixth day adhesions will have formed and the gauze drainage and rubber tube will be surrounded by a fibrous exudate which will have established a pathway for the pus, and they can be removed, therefore, with safety. The cavity is irrigated with warm sterile water until the flow returns clear, and a new rubber tube is carried into the cavity with strips of sterile gauze packed around it down to the abscess cavity. This practice is continued on each successive day until there is no further evidence of pus, and the sinus is allowed to close after the second week. The patient may then be about in a rolling chair in a reclining position and during the last days of local treatment will be walking about if the systemic conditions are favorable. In the convalescent stage, about ten days after operation, the patient is given thrice daily, on an empty stomach, 30 c.c. of pure olive oil in a wine glass into the bottom of which has been squeezed 10 c.c. of lemon juice. The patient soon acquires a taste for it and improves under the treatment. The effect on the intestinal dejection is marked. The oil acts by stimulating the portal circulation, increases the flow of bile, restores a natural digestive agent and antiseptic to the intestinal canal, and heals the ulcers. The dietary must be generous in quantity, but not overwhelm the digestion. He prohibits milk foods, broths, etc., but gives a solid diet in conjunction with the olive oil, administration of minced meats, well-cooked vegetables, salads and shellfish. Whatever foods are ordered, the end in view must be to give the large bowel rest.

21. **Paraffin Prothesis.**—Morton reports a number of cases and illustrates his article with microscopic drawings showing that the paraffin disappears and is replaced by connective tissue and embryonic tissue within four months. The dangers of sepsis, emboli and sloughing are mentioned. Sepsis can be prevented by asepsis; emboli by using the paraffin at the proper temperature though experiments seem to show that paraffin, the melting point of which is below the temperature of the body, gives rise to thrombosis. He doubts whether this is as dangerous as the experiments would lead one to believe. He uses paraffin of a melting point of 109 F., brought to this point by adding sperm oil, and sterilized by placing in a water bath, and exposed to heat sufficient to boil the paraffin.

22. **Tuberculosis in the Negro.**—Coleman analyzes the mortality statistics of Charleston, S.C., Augusta, and Atlanta, Ga., and New Orleans, La., as typical of the South, showing that the ratio of deaths from tuberculosis in the negro is much greater than in the whites, and gives as the reasons their immorality, irregular habits, general lack of hygiene, etc. He thinks with proper measures thoroughly carried out, this mortality could be wonderfully reduced.

24. **Funic Pulsations.**—Good holds that pulsation in the umbilical cord is of fetal and not of maternal origin. To illustrate this he reports an instance where pulsation persisted for some time after the placenta had been expelled from the uterus. The time to ligate the cord, he says, is when there is firm contraction of the uterus.

St. Louis Medical Review.

October 24.

27 *Personal Experience in the Treatment of Typhoid Fever. J. Franklin Welch.

27. **Typhoid.**—The treatment of typhoid advocated by Welch is proper nursing, plenty of sterile drinking water, a bland, liquid, digestible diet, the use of the Brand method if possible, but sponging in other cases. He thinks medicines have their share in the treatment. It is highly important that the bowels be freely evacuated in the beginning, and for this he would give mild hydrargyrum chlorid and sodium bicarbonate in grain doses every hour followed by carbonate of guaiacol in 3-gr. doses, alternating with the following prescription: Liquor

potassi arsenitis, 1 dram; nitrate ammonia, 2 drams; distilled water, 3 ounces, given in teaspoonful doses. These have been very satisfactory in his hands. Guaiacol is a splendid antiseptic, Fowler's solution, an antidote to malaria as well as a good nerve tonic, and the nitrate of ammonia, a mild cardiac stimulant, all of which are indicated in the treatment of typhoid fever in the Mississippi Valley.

Cincinnati Lancet-Clinic.

October 24.

- 28 Suggestion and Therapeutics. R. H. Grube.
- 29 Constipation Cured by Massage, Together with Faradic Electricity. George J. Monroe.
- 30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Journal of Nervous and Mental Disease, New York.

October.

- 31 *The Sign of the Orbicularis in Peripheral Facial Paralysis. George W. Jacoby.
- 32 *Gigantism and Leontiasis Ossea, with Report of the Case of the Giant Wilkins. (Continued.) Peter Bassoe.
- 33 *Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. (Continued.) G. Alfred Lawrence.

31. **The Orbicularis Sign.**—This sign, which consists in inability of a hemiplegic to voluntarily close the eye on the the generally accepted one of Broadbent, that it is due caused by Jacoby with reference to its significance in facial paralysis. The theory for the reason why the upper facial is free or less involved in central paralysis accepted by him is the generally accepted one of Broadbent, that it is due to bilateral representation of this innervation in the brain. As regards facial paralysis, the question of decussation arises. He reviews the literature of the subject and reports cases which seem to bear out his ideas, giving his conclusions as follows:

1. The statement of Bard, that the sign is invariably lacking in peripheral facial paralysis and is, therefore, a distinguishing mark of central affection, is incorrect. 2. The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerves. 3. The sign is of clinical value. In so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred. 4. The secondary over-action in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign, having been present, has passed away.

32. **Gigantism and Leontiasis Ossea.**—Bassoe tabulates the literature of 42 cases. He finds that heredity seems to play no part in the production of this condition, and that the association of sarcoma must be more than a coincidence. The symptoms are explainable by pressure. The diagnosis discussed is between the conditions described and osteitis deformans, acromegaly, sarcoma, etc. There is little to be expected from treatment.

33. **Paresis.**—This installment of Lawrence's article is mainly devoted to technic and an examination of the cortical changes.

Archives of Pediatrics, New York.

October.

- 34 A Case of Pulmonary Osteoarthropathy. Thomas Morgan Rotch.
- 35 A Case of Chondrodystrophy Fetalis. J. Park West and W. O. S. Piper.
- 36 *Prophylactic Measures to Prevent the spread of Vulvovaginitis in Hospital Services. Henry Koplik.
- 37 A Study of Two Cases of Intussusception. Francis Huber.
- 38 The Prophylactic Use of Diphtheria Antitoxin in School Children. Augustus Caille.
- 39 Congenital Gastric Spasm. J. Park West.

36. **Vulvovaginitis in Hospital Service.**—Koplik notices the tendency of this disorder to spread under hospital conditions and gives illustrations from epidemics sometimes started among the children. It is conveyed, he thinks, in many ways. The utensils may be the first source of infection or the linen and rubber sheets, diapers, underclothing, wash rags and basins and last, but not least, the bath tubs. Every child on admission to his service is thoroughly examined first of all for any rectal, urethral, or vaginal discharge and cultures taken. No child is bathed in the common bathtub until pronounced free from vaginal, rectal or urethral discharge by the house physician. Each child is given an individual basin, comb and bedpan kept at the head of each bed. No bar soap is used; the liquid soap alone. Each bed is fitted permanently with a small brass thermometer case and every patient supplied with his own thermometer, which, with its case, is carefully cleansed

and disinfected after discharging the patient. A bedpan once having been used on a patient suffering from discharge is never again used on a well one. The diapers are made of cheese-cloth and thrown away when soiled. In case of patients with an infectious discharge the bed is surrounded by a red bandage to warn the nurses, and the bedding, rubber sheets, draw sheets, and all the linen are marked V. D. (vaginal discharge) and never used again except in a similar case. He has thus instituted a most complete system of isolation protecting each little patient from the others. Should a case be received it can not spread. It is not a simple matter as he has seen deaths occur from infection of the peritoneum resulting from this condition, and many cases of subsequent trouble and sterility in later life can be traced to this infection in early childhood.

Chicago Medical Recorder.

October 15.

40 The Management of Acute Anterior Urethritis of Gonorrheal Origin. F. Kriessl.

41 *Radical Cure for Blepharitis of the Lachrymal Sac. E. F. Snyder.

42 Compound Fractures. I. C. Gary.

41. Lachrymal Blepharitis.—Snyder prefers the subperiosteal operation for this condition, starting the incision above the internal canthal ligament, extending downward 2 or 3 mm. anterior to the crest of the lachrymal bone for a distance of $2\frac{1}{2}$ to 3 cm. The incision extends through the periosteum, which is raised with an elevator down into the lachrymal fossa. In this way the nasal and posterior surface of the lachrymal sac can be lifted up with the periosteum as far as the beginning of the lachrymal canal. The superior portion of the sac can then be separated from its attachment to the surrounding tissue by carefully cutting with small scissors. Then the sac and periosteum are seized with forceps and pulled up so as to cut the sac off as low down and as near the beginning of the canal as possible. The beginning of the canal should be thoroughly curetted so as to make good drainage into the nose. The wound is sutured and a pressure bandage applied. He considers this the easiest and quickest method of performing an operation; better than dissecting out the sac without the periosteum. There is no question in this method of removing the sac entire.

International Journal of Surgery, New York.

October.

43 *Treatment of Cancer by the X-Ray, with Remarks on the Use of Radium. William James Morton.

44 *On the Cure of Lupus Erythematosus by Actinic Light. William S. Gotthell.

45 *Some Observations in X-Ray Work. G. P. Edwards.

46 Personal Observations of the Therapeutic Value of the X-Ray. William F. Campbell.

47 How to Secure the Best Skilograms; Some Practical Points in the Manipulation of Vacuum Tubes in Radiography and Radiotherapy. Walter M. Brickner.

48 Observations in the X-Ray Treatment of Malignant Disease. Finley R. Cook.

49 New Treatment of Cicatrices. Henry R. Varney.

50 *Radiotherapy, with Report of Eleven Cases. Charles D. Center.

43. X-Ray and Radium for Cancer.—Morton holds that the earlier the malignant disease is discovered and treated by the x-ray the better, and that in its earlier stages radiation treatment is preferable to operation. When cancer has become more advanced operation is required. After operation the x-ray treatment is always advisable, and for non-operative cases there can be no question but that it offers the only chance for relief. He points out certain considerations: 1. That treatment should be begun early before the involvement of the lymphatic system to any extent. 2. The type of cancerous diseases is an important consideration. Squamous-celled carcinoma or the rodent ulcer type may claim the possibility of 100 percentage of cures. 3. If the cancer, however, has broken down and become a large open ulcer the chances are less than if the skin remains unbroken. 4. Open ulcers, moreover, offer a chance for secondary septic infection. For this reason he invariably covers the open ulcer during treatment with a layer of absorbent cotton. The intensity of the ray is a matter which severely tests the judgment of the operator. In deep-seated carcinoma of the breast or other internal tumors there is no doubt that treatment can be carried to the point of exciting severe dermatitis to the advantage of the patient. On the

other hand, in superficial growths or one directly beneath and involving the skin, there is great danger in producing dermatitis. In such cases the operator may either kill or cure the patient. Gentle x-ray treatment given three times weekly to the point where reddening of the skin is not pronounced, will often cause these tumors to shrink and wither away, while severe x-ray treatment would produce rapid extension of the disease. Morton alludes to the publication of Edison in regard to cancers and the notion that the system may become saturated with the x-ray and subject to a multitude of ills. He says it is hardly fair to compare the intelligent use of the agent to the protracted exposures of the hands and arms of exhibitors, and the bugaboo of over-saturation by the x-ray does not exist in scientific medicine. His method is to give treatments three or four times a week, of fifteen to twenty minutes' exposure at a distance of 9 in., with x-ray radiation intensity affording a given picture of the lower end of the radius and ulna at 2 feet; thus producing a fair dermatitis in two to four weeks. By following this plan he has never been surprised with an unexpected burn of any severity. In cases where the treatment must be general, as in Hodgkin's disease, the patient may be exposed to the rays at the distance named and the intensity referred to daily for three-quarters to an hour without suffering harm. He does not believe in shields for the local treatment of cancer. The greater the area treated the greater the chances of safety to the patient. His theory of artificial fluorescence of living tissues is mentioned and he remarks on the use of radium, which he says has much the same effects as the x-rays. He describes his technic.

44. Lupus Erythematosus.—Gotthell believes in the treatment of lupus erythematosus by the Finsen light rather than by the x-rays, and remarks that it differs markedly from the latter. In the latter the reaction is uncertain and may appear late and be deep-seated. In the light treatment the reaction is superficial and appears quickly, lasting only a short time and never does any harm. His results he claims are brilliant, though one of the cases he reports was a failure. It was a case of long standing and very extensive disease.

45. X-Ray Work.—From his experience with the x-rays Edwards concludes that there is no place in the work for empiricism and no one should undertake it without being reasonably familiar with the physical, physiologic and therapeutic properties of the agent. It is a comprehensive and difficult branch of therapeutics and should be taught in medical schools. While in competent hands it is safe and reliable and capable of great good, in incompetent ones it is an agent fraught with great mischief. In the hands of the experienced operator with improved apparatus and technic he holds that 100 per cent. of skin cancers may be cured. Lesions involving the mucous surfaces about the head are more difficult to control and until improved methods are devised for working the rays on unexposed regions in the mouth and throat, not over 50 per cent. of cures can be expected. Lesions involving the cervix uteri and other accessible parts should be controlled by an intelligent, persevering fight. Deep-seated subcutaneous growths, adenomas, etc., should be controlled before dissemination. In all cases relief from pain and other sensory disturbances, retardation of the progress of the disease and general improvement may be expected. In accessible lupus vulgaris a cure may be anticipated in every case. Lupus erythematosus is difficult and requires more radical and severe treatment than is ordinarily demanded.

50.—This article has appeared elsewhere. See THE JOURNAL of September 12, 1913, p. 686.

Bulletin of the Johns Hopkins Hospital, Baltimore.

October.

51 Dr. Samuel Fuller, of the Mayflower (1620), the Pioneer Physician. Thomas F. Harrington.

52 *The Relation of the Status Lymphaticus to Sudden Death, Death Under Anesthesia and Infection. George Blumer.

53 A Case of Syphilis of the Peripheral Nerves and Lungs. Charles M. Remsen.

54 The Medicine and Doctors of Juvenal. Eugene F. Cordell.

52. Status Lymphaticus.—The following are the conclusions of Blumer's article:

1. The condition known as the status lymphaticus is a definite pathologic entity. 2. It is probably associated with, if not due to, a condition of intermittent lymphotoxemia. 3. It may be associated with sudden death, probably as a result of lymphotoxemia alone in some cases, or as a result of the action of toxic, physical or psychic injuries, which are rendered much more powerful than usual by the predisposing action of the lymphotoxemia. 4. In some cases the sudden death is undoubtedly mechanical and due to asphyxia from pressure of the enlarged thymus on the trachea. 5. The subjects of the status lymphaticus can be recognized clinically in some instances.

Bulletin of the Kentucky State Medical Association, Louisville. October.

- 55 Cerebral Syphilis. George P. Sprague.
 56 *But One Profession of Medicine. Dudley S. Reynolds.
 57 *Pertussis. Philip F. Barbour.
 58 *A Plea for More Accurate Diagnosis in Diseases of the Upper Abdomen. Louis Frank.

56.—This article appeared in THE JOURNAL, xl, p. 1781.

57. Pertussis.—The dangers of pertussis are pointed out by Barbour. The treatment which he considers most useful is that by calcium sulphid. It has proved more efficient than any other agent in his experience. It is not always possible, however, to obtain it in an effective condition, as most calcium sulphid on the market is inert, he says, because it is not sufficiently protected from oxidation during its manufacture, or it deteriorates from imperfect protection afterward. The chocolate-coated pills, he thinks, retain the salt in a purer condition than the gelatin coated. The dosage is approximately $\frac{1}{2}$ gr. every two hours for a child 1 year old, but it may be used in larger or smaller doses according to the results. The object is to saturate the system so that the breath smells of hydrogen sulphid. At the orphan asylum of which he is in charge 15 cases occurred rather consecutively during 1902. In two months after the beginning of the epidemic the last child affected was entirely well of the cough which follows the convulsive stage. When we consider that the average case of whooping cough lasts three months under the most favorable conditions this result would seem to be remarkable.

58. Abdominal Diseases.—Frank holds that chronic indigestion and dyspepsia *per se* do not exist in nearly the number of cases so diagnosed, and that disorders which give rise to the symptoms are generally those of the gall bladder or due to stomach ulcer. Only careful examination and gastric analysis can reveal the true state of things, and early diagnosis is better as giving the patient more chance. If a strong presumptive diagnosis can not be made from the symptoms by exclusion an exploratory operation is advised.

Detroit Medical Journal.

October.

- 59 *Operation of Total Extirpation of the Prostate in Its Capsule. J. B. Kennedy.
 60 *Conclusions from Fifty-one Intubated Fatal Cases of Laryngeal Diphtheria. B. R. Shurly.
 61 A Case of Gunshot Wound of the Brain. Hal C. Wyman.

59. Prostatectomy.—Freyer's operation of perineal prostatectomy is advocated by Kennedy, who describes the method which, as is well known, is preceded by suprapubic cystotomy. He has himself employed it in a number of cases similar to those in which he has seen Freyer operate and with the best results. Five of them are reported.

60. Laryngeal Diphtheria.—The 51 cases here analyzed by Shurly point out the importance of the early administration of large doses of antitoxin and immunization of those exposed. He calls attention to the fact that there is a misunderstanding among physicians as to the meaning of double x and single x serum, which are simply measures of quantity and not of strength of units. In other words, 2,000 units single x are identical in curative value with 2,000 double x, and a mistake may lead to fatal results. The chief reasons why the cases analyzed were fatal he gives as follows: 1. Delay in giving the large initial dose of antitoxin, either by delay in calling the physician or by delay by the physician. 2. Insufficient dosage at later intervals. 3. Delay in intubation. 4. The presence of hypertrophied tonsils and adenoids. 5. Lack of proper nursing. With proper attention to dosage he thinks the mortality will be reduced to at least 5 per cent. and intubation be given its proper place among the rarer methods of operative interference.

Therapeutic Gazette, Detroit.

October 15.

- 62 *Hyoscin in the Treatment of Morphinism. George E. Petty.
 63 A Note on the Internal Administration of Adrenalin for Control of Hemorrhage. Homer Dupuy.
 64 *Symptoms and Diagnosis of Gastric Ulcer, with Remarks on the Treatment with Large Doses of Subnitrate of Bismuth. John B. Woodville.
 65 *Directions for the Use of the Vaginal Douche. Byron Robinson.
 66 *Some Reasons Why We Should Use Antiseptics in the Treatment of Typhoid Fever. J. M. Peck.
 67 Treatment of Menière's Disease, with Report of Case. J. M. Bradley.

62. Morphinism.—Petty answers Crothers' criticism as to the use of hyoscin in the treatment of morphinism, claiming that while it does not cure morphinism, and any one who expects it so to do will be disappointed, it fills a most important place in the treatment. It controls suffering from the withdrawal of morphin, and when used in the quantity and for the length of time it is required for that purpose may be used with absolute safety. Although it is a narcotic, it differs so greatly from morphin in its effects that its use for the length of time required does not perpetuate the desire or necessity for the use of morphin. It overcomes both of these and keeps the patient comfortable while he is abstaining. He does not see what more can be expected.

64. Gastric Ulcer.—Woodville treats gastric ulcer by diet restricted to sweet milk with the white of one or two eggs beaten up in half a glass of water at intervals of two to three hours, and the use of subnitrate of bismuth in doses of 45 to 120 grains, suspended in half a glass of milk, three times a day, continued without intermission for three weeks. Used in this way bismuth relieves the vomiting and forms a protecting coat over the ulcer under which the process of repair may go on without interruption. Usually at the end of the time mentioned the diet can be increased by the addition of broths, soft-boiled eggs and crackers. He reports cases. He has never seen any cases of poisoning by these large doses of bismuth. He keeps the bowels open by daily rectal injections and never gives cathartics to the patients by the mouth.

65. The Vaginal Douche.—Robinson uses for this purpose a fountain syringe with a four-foot head. He begins with four quarts to those accustomed to it, and two quarts to those who are unaccustomed, at a temperature of 105 F., increasing both the amount and the temperature until the water is as hot as it can be borne, and until a maximum of fourteen quarts is used. He gives the douches in the morning and in the evening just before retiring. The duration required to take each gallon of douche is eight to ten minutes, though less if the full amount is given. The patient should be on the back with thighs and legs flexed. A handful of salt or a teaspoonful of alum can be added to each gallon to dissolve the mucus and pus, acting also as an astringent and antiseptic and for hardening the tissues. Other astringents are less valuable. Sodium sulphate is the best general solvent for the discharges. The tube should be sterilized, boiled and each patient should have her own. The utility of the douche is that it contracts the tissues and vessels, absorbs exudates, checks secretions, stimulates, relieves pain, cleanses, checks hemorrhage, curtails inflammation and drains the genital tract. The best disinfectants for the douches are carbolic acid, permanganate of potassium and biniodid of mercury. Disinfectants, however, are secondary in value to solvents of mucus, pus and leucocytes. The douche should be non-irritating, should be clear, economical and to be of curative effect in pelvic disease should be continued for months.

66. Typhoid Fever.—The wisest course in typhoid, according to Peck, is to treat the cases under the assumption that there is sepsis in the intestines. Of the numerous antiseptic agents which may be administered there are none, he thinks, so good as chlorin and acetozone. His first experience with chlorin was in 1895. Since then he has never attempted to treat a case without its use. As yet he has had no experience with acetozone, but numerous testimonies lead him to class it with chlorin. Neither of these drugs are injurious to the human organism, but promptly kill typhoid bacilli in the presence of moisture outside of the body, and when given early in liberal

quantities to persons infected with typhoid bacilli the majority of the characteristics of severe typhoid do not appear. He mentions also urotropin for clearing the urine as another valuable antiseptic; also sulphocarbolate of zinc, guaiacol, mercury and salol, but all as secondary to chlorin and acetozone.

Woman's Medical Journal, Toledo.

September.

- 68 Acute Plastic or Fibrinous Pericarditis. Mary Willson.
69 *The Fatality of Whooping Cough. Eliza H. Root.

69. Whooping Cough.—The fatality of whooping cough which is popularly considered to be almost *nil* is pointed out by Root as a decidedly serious matter. She says that statistics prove that it is more fatal in many localities and at certain times than scarlet fever. In the United States Census Report for 1900, for example, we find that 663 died in New York of whooping cough and 549 from scarlet fever. Death usually occurs from the complication of pneumonia, but asphyxia or marasmus, cerebral apoplexy and emphysema after rupture of the larynx are occasionally reported as the cause of death. Severe disturbance of the nervous system or intelligence, visual defects or even deaf-mutism may remain after apparent recovery. While whooping cough is not carried by individuals not ill of the disease, it is actively contagious from one person to another. Its control need not be so complicated and far-reaching as that of scarlet fever. It is advisable, however, that it should be isolated. To make it a notifiable disease would add in gathering statistics and give us better data as to its true serious import.

Medical Fortnightly, St. Louis.

October 10.

- 70 Fighting Cholera in Manila. Charles M. Blackford, Jr.
71 A Few Facts Concerning Cirrhosis of the Liver. O. E. Lademann.
72 Puerperal Infection in Private Practice. John A. Hale.
72½ Presentation of a Case of Abdominal Pulsation for Diagnosis. Walter C. G. Kirchner.

Medical Age, Detroit.

October 10.

- 73 Management of Pregnancy. W. S. Phillips.
74 Second Summer Complaint of Infants. William R. Moss.
75 A Method of Dealing with Fractures. J. B. Taulbee.

The Northwestern Lancet, Minneapolis.

October 15.

- 76 The Early Symptoms of Neurasthenia, Hysteria and Melancholy. Dwight S. Moore.
77 Some Observations on Paretics Admitted to the South Dakota Hospital for the Insane During the Past Thirteen Years. L. C. Mead.
78 What Is Necessary to the Early Treatment of Insanity? H. A. Tomlinson.

Annals of Gynecology and Pediatrics, Boston.

October.

- 79 The Treatment of Infantile Spastic Paralysis. E. H. Bradford.
80 Spinal Analgesia. James T. Greeley.
81 Maternal Impressions. William S. Birge.
82 A Case of Obstruction of the Sigmoid. T. W. Luce.
83 Hand Disinfection. The Surgical Aes Triplex. W. A. Briggs.

Physician and Surgeon, Detroit and Ann Arbor.

August.

- 84 Light and Invisible Rays Employed in Medical Practice Considered from a Physical Standpoint. Vernon J. Willey.
85 A Case of Fecal Accumulation. James B. Wallace.
86 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. Ephraim Cutter.

Pediatrics, New York.

September.

- 87 Rheumatism in Childhood. Alfred Friedlander.
88 The Control of Fever and Convulsions of Infancy and Childhood. Thomas J. Long.
89 A Case of Popliteal Aneurism in a Young Boy. J. F. Black.
90 Artificial Feeding of Infants. G. E. Decker.
91 Recent Studies Regarding the Morphology of the Diphtheria Bacillus. Arthur T. Laird.
92 Report of Fracture in the Shaft of the Femur. I. B. Perkins.
93 X-Ray Report of Above Cases. S. B. Childs.

Journal of the Kansas Medical Society, Topeka.

October.

- 94 Popular Dose Measures. L. E. Sayre.
95 An Interesting Case (Fecal Impaction in Premature Labor). C. K. Vaughn.
96 Vital Statistics. Arthur W. Clark.
97 A Plea for Early Operation in Appendicitis. M. C. Porter.
98 The Rational Treatment of Pulmonary Phthisis. J. Hobert Egbert.

Occidental Medical Times, San Francisco.

October.

- 99 Mosquitoes and Malaria. J. J. Kinyoun.
100 What Does a University Do for a Medical School? Douglass W. Montgomery.
101 Asthma Produced by Urethral Irritation and Stricture. G. L. Eaton.
102 Infant Feeding. R. C. MacDonald.
103 Illuminating Gas. E. V. Lamorce.
104 Epithelioma of the Penis. Douglass W. Montgomery.
105 Acute Radiating Parenchymatous Keratitis. Robert D. Cohn.

Medical Summary, Philadelphia.

October.

- 106 Primula Sinensis (Daisy Primrose) Poisoning Mistaken for Eczema. J. C. Densten.
107 Are Hemorrhoids Ever Beneficial? George J. Monroe.
108 Oxochlorid of Copper. W. Ashton Kennedy.
109 Gems from Practice. A. V. Banes.
110 Natural Diagnosis. William H. Burgess.
111 Leucorrhoea. J. A. Burnett.
112 Some Notes on Spiritualism. T. K. Galloway.
113 An Interesting Case: Proprietary Remedies, etc. J. S. Leachman.
114 A Usually Unrecognized Cause of Amenorrhoea. W. H. Bently.

New England Medical Monthly, Danbury, Conn.

October.

- 115 Puerperal Sepsis. Dr. Reidhaar.

Western Medical Review, Lincoln, Neb.

October 15.

- 116 Pauperization of the Medical Profession. Chester A. Brink.
117 General Paresis. J. M. Alkin.
118 Hysterical Blindness (Blinocular). D. C. Bryant.
119 Sudden Death. Edwards Bates.
120 Toxins and the Adrenals. W. L. Welsh.
121 The Atypical in Medicine. J. Lue Sutherland.
122 Aphonia. J. A. Haggard.
123 Operations on the Tonsil; Technic and Indications. Henry B. Lemere.

Medical Standard, Chicago.

October.

- 124 The History of Nephritis. Arthur R. Elliott.
125 A Surgical Clinic (Adenoma of Thyroid). N. Senn.
126 The Evolution of Massage in Traumatic Affections of the Joints. Hugo A. Oldenborg.
127 A Gunshot Wound. Orville W. Mackellar.
128 Business Methods for a Physician. C. U. Collins.
129 Richard Bright. Alfred S. Burdick.

Iowa Medical Journal, Des Moines.

October 15.

- 130 Functional Albuminuria. Edward L. Rohlf.
131 Observations and Impressions of Medicine and Medical Men Abroad. G. E. Crawford.
132 The Status of the Health Department in Municipal Affairs. L. A. Thomas.
133 Diarrheal Diseases of Children. Jennie Ghrist.

Memphis Medical Monthly.

October.

- 134 Health, Heat and Ventilation. James B. Cook.
135 Traumatic Lesions of the Spinal Cord. B. F. Turner.
136 First Aid in Railroad Injuries. G. B. Thornton.

Oklahoma Medical News-Journal, Oklahoma City.

October.

- 137 The Value of the Study of the Blood in the Diagnosis of Surgical Affections. John T. Moore.
138 The Local Treatment of Ulcers. L. W. Palmer.

Medical Bulletin, Philadelphia.

October.

- 139 Address Delivered at the Opening Exercises of the Medical-Chirurgical College. George H. Meeker.
140 Neurasthenia. J. V. Shoemaker.
141 Uremic Hemiplegia. José Valdés Anciano.

The Post-Graduate, New York.

October.

- 142 Work of the Sanitary Department of Havana. W. C. Gorgas.
143 Tumors of the Bladder. Henry G. Spooner.
144 Hare-lip and Its Treatment. Charles R. L. Putnam.
145 Carcinoma of the Pancreas and Its Diagnosis. Stephen S. Burt.
146 Progress in the Treatment of Congenital Hip Dislocation. Henry L. Taylor.
147 Acute Tuberculous Meningitis in an Adult. Stephen S. Burt.
148 Gynecologic Operations at the Post-Graduate Hospital During the Summer Months. Abram Brothers.
149 Notes from the Clinics. Henry L. Taylor and Wendell C. Phillips.

Medical Times, New York.

October.

- 150 The Kinesipathic Treatment of Rectal Diseases. G. H. Patchen.
151 The Outlying Provinces of the Digestive Specialty. A. L. Benedict.
152 The Etiologic Factors in Cholelithiasis. Marshall O. Terry.
153 Practical Points to Be Emphasized. William Wormley.
154 Eczema and Erythema as Seen by the General Practitioner. M. McCrory.
155 Gastric Neurasthenia. John H. Blackburn.

Journal of Medicine and Science, Portland, Me.

October.

- 156 "The Great English Discovery," Lemon Juice in Typhoid.
F. A. Hanson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 17.

- 1 The Purpose and Maintenance of Our Universities. Victor Horsley.
- 2 Medical Legislation and Education. William S. Church.
- 3 *Discussion on the Pathology and Treatment of Tuberculosis of the Uterus and Adnexa. James H. Targett, J. A. C. Kynoch, Arnold W. W. Lea, Herbert Snow and others.
- 4 Diagnosis and Treatment of Uterine Fibroids. Murdoch Cameron.
- 5 *A Further Series of 32 Cases of Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
- 6 *On a Method of Treating by Operation Paralysis of the Upper Root of the Brachial Plexus (Erb-Duchenne Type). A. H. Tubby.
- 7 The Pathology and Treatment of Hallux Rigidus, Hallux Flexus and Hallux Extensus. A. H. Tubby.
- 8 *Phelps' Operation of Club-Foot. E. Muirhead Little.
- 9 *Cystic Tumors of the Mammae: Their Removal by "Forcible Massage" without Incision. Herbert Snow.
- 10 The Substitution of Temporary and Absorbable for Permanent and Unabsorbable Sutures in the Operations on Bone. R. H. Anglin White Locke.
- 11 *The Surgical Treatment of Chronic Gastric Ulcer. C. Mansell Moullin.
- 12 *The Open-air Treatment of Surgical Tuberculosis. Edward Deaneley.

3. Tuberculosis of the Uterus and Adnexa.—Targett shows the frequency of this complication in the statistics of the Brompton Hospital, Johns Hopkins Hospital and elsewhere. In many cases tuberculosis is not diagnosed and the naked eye changes are often so slight as to be overlooked. The fallopian tubes are the points of attack in nearly 90 per cent. of cases; and in them it may take on one of three forms: diffuse miliary tuberculous salpingitis, caseous tuberculous salpingitis and tuberculous pyosalpinx. The peculiar features of tuberculous pyosalpinx are its elongated banana-like shape, the persistence of the fimbriated extremity, the absence of adhesions on its serous surface, and the comparative thinness of the sac wall. The contents are usually free from pyogenic organisms and often do not contain tubercle bacilli. The uterine extremity will, however, be found thickened and have the characteristic structure of tuberculous growths. Tuberculosis of the body of the uterus he finds remarkably similar to the condition in the tube. We have thus a caseous tuberculous perimetritis, a diffuse miliary form, less frequent, and the true pyometrium, comparable to the pyosalpinx above described. In the majority of cases the uterus is infected by extension of the disease from the tubes, rarely from the cervix. He considers primary corporeal tuberculosis dubious, though it has been attributed to placental infection. As regards diagnosis he insists on the importance of previous history and the absence of other causes. Pregnancy seems to favor the development of tuberculous peritonitis. There is comparatively little disturbance in the menstrual function; menorrhagia is not so common as in other forms of chronic salpingitis. Dysmenorrhea is certainly a common symptom in tuberculous salpingitis, but the absence of pelvic pain is considered worthy of note. Some writers have laid great stress on the nodular feel of the diseased tubes, such nodules often being in close relation to the uterus and may justify the suspicion of tubercle, though we would have to exclude malignant disease. Lastly, when the disease is affecting the uterine cavity it may be possible to detect the tubercle bacilli in the discharges or discover the structure of tubercle on microscopic examination of the uterine curettings. Whether or not it is wise to attempt removal of caseous tubes when surrounded by dense adhesions further experience must decide, but there is no doubt that tuberculous pyosalpinx can be best treated by abdominal resection. The dangers of laparotomy are adhesions of the bowel to the abdominal wall, the density of the fibrous adhesions around the appendages, the rottenness of the bowel and tissues generally and the risk of fecal fistula. When the uterus

is affected its tissues are easily torn and dilating and curetting may cause serious ruptures.

Kynoch describes primary tuberculosis of the cervix, recognizing the ulcerative form of miliary tuberculosis representing the early stage of ulceration and the papillar form involving the cervix endometrium and extending into the vaginal process, red and bleeding, soft and non-friable, and in these respects differing from epithelioma. He reports a case and remarks that such localized tuberculosis is more frequent than is generally supposed. The symptoms are not satisfactory for diagnosis. In the absence of tuberculosis elsewhere with the surrounding parts apparently healthy, hysterectomy is the best treatment. Palliative treatment should be reserved for cases that are obviously secondary to active tuberculous lesions elsewhere.

5. Prostatectomy.—Freyer continues his article, reporting additional cases. Of the 51 completed cases, 46 have been perfect successes, the patients continuing to be well. There has been no permanent fistula, contraction at the site of operation, stricture or dangerous hemorrhage during or after operation and no case of septicemia, which is remarkable, considering that the bladder was septic before operation. He suggests that persons that survive to a condition in which these cases are when operated on, become more or less immune by the gradual absorption of toxins and thus do not become septic. There were 5 deaths out of the 51 cases; 2 from mania after the wound had healed and the urine was being passed naturally; 1 from heat stroke during convalescence, 1 from coma from retention of morbid products which had set in before the operation and 1 from pneumonia seven days after operating. In only one of the cases could the fatal results be attributed to the operation. In his last 19 completed cases there has been no such accident. He remarks on the frequency of mental disorder among persons suffering from prostatic disease and says that more than ordinary risk is attached to an operation of any kind in such cases from its being likely to accentuate the mental symptoms.

6. Erb-Duchenne Paralysis.—Tubby has attempted to relieve this condition by splicing the muscles, attaching the triceps to the biceps and thus enabling flexion of the arm to be secured. The replacement of the paralyzed deltoid is more difficult, but he has used for this purpose the clavicular portion of the pectoralis major and that part of the trapezius attached to the clavicle. These cases promise better results. An important point after muscle-grafting operations of any kind is that the grafted muscle must never be put on the stretch for at least a month, and then it must still be kept under control, and very gradually be allowed to attempt to perform its full function.

8. Club-Foot.—Phelps' operation for club-foot, which was severely criticised when presented before the British Medical Association in 1900, is strongly advocated by Little. He varies it slightly by dividing the tendo Achilles last and using a skin flap which has also been employed for this purpose by Jonas of Omaha. He does not put the foot in gypsum immediately after operation as oozing occurs and a bulky dressing is required which prevents a good hold on the foot being obtained, and also because blood-stained dressings are likely to be irritating. He illustrates his paper, showing his results. He has never had serious trouble from scar and if the skin flap is employed this is avoided. He is convinced that there is no ground for fearing recontraction or relapses. The chief danger, he thinks, is in the production of flat-foot. To secure good results it is absolutely necessary to keep the fore part of the foot fully abducted and the inner border stretched from the time of operation until the wounds are soundly healed. His conclusions are:

1. In selected cases Phelps' operation is of great value. A skin flap should always be made. 2. Osteotomy as a part of the operation is rarely necessary. 3. The operation is contraindicated in young children because of the difficulty of predicting what the ultimate result of growth and pressure may be and the danger of severe flat-foot following. 4. If, for reasons of expediency, cases must be operated on young, and flat-foot result, the patient is far better off than if he had a relapsed or partly cured varus.

9. Cystic Tumors of the Mammæ.—Snow holds that many of these cystic tumors are simply milk engorgements which

can be milked out by forcible massage and thus do away with the necessity of operation.

11. Gastric Ulcer.—Moullin advocates operation in chronic gastric ulcer and in every possible case he favors dealing with the ulcer directly in preference to gastrojejunostomy. Posterior gastrojejunostomy, especially with lateral anastomosis between the two sides of the intestinal loop, is, however, an excellent operation. If the ulcer is multiple; near the pylorus or cardia or if it is too large or deep, or if it has contracted such dense adhesions that removal is impracticable, gastrojejunostomy may be the only resource. The ideal method is excision. The success depends on whether the operation is a preventive against future trouble or used as a last resort. Of the former class he has had 23 cases, with but 1 death, and of the latter, 15 with 5 deaths. Two of these fatal cases were almost moribund at the time of operating, and the others were more or less hopeless.

12. Surgical Tuberculosis.—Deanesly advocates the open-air treatment for surgical tuberculosis and claims that every hospital should be provided with facilities for treating patients in the open air.

The Lancet, London.

October 17.

- 13 The Importance of Post-Graduate Study. William S. Church.
- 13½ Charles White, F.R.S.: A Great Provincial Surgeon and Obstetrician of the Eighteenth Century. Charles J. Cullingworth.
- 14 The Quantitative and Qualitative Relations of Toxin and Antitoxin. E. F. Bashford.
- 15 A Case of Upward Dislocation of the Foot. Percy W. G. Sargent.
- 16 Note on a Case of Renal Calculus. H. E. Bruce Porter.
- 17 *The Treatment of Sciatica. J. Mitchell Clarke.
- 18 A Case of Infantile Acute Eczema; Hematemesis; Duodenal Ulcer; Death. Hugh H. Borland.
- 19 Three Cases of Perforated Gastric Ulcer; Recovery After Operation. Frederick C. Wallis.
- 20 A New Ethyl Chlorid Apparatus and Method. G. W. B. Daniel.
- 21 *On the Etiology of Bubonic Plague: An Epidemiologic Contribution. J. Ashburton Thompson.

17. Sciatica.—The Weir Mitchell treatment by rest and a long splint is advocated by Clarke, who has found it successful in the severer cases of sciatica that have come under his care. Out of the last 12 consecutive cases of severe sciatica 10 patients were cured, 1 had a relapse but was cured by a second course of treatment. One could have been relieved, but he was restless and impatient and it was impossible to keep the splint on. The restraint of the splint is rather inconvenient for the first day or two, but later is more endurable. Gastric affections must be looked after by careful feeding and a light diet is better in all cases at first. Care must be taken that the bed is flat and even and that there is a firm basis of support under a flat mattress. The limb must be absolutely at rest; this is essential to treatment. A short course of massage, tonics and cod-liver oil is an aid to complete cure.

21. Bubonic Plague.—Thompson finds from experience with plague at Sydney, Brisbane and Port Elizabeth that the transmission of plague must be through the skin and that the best carrier that meets all the requirements is the flea. The objections to this theory are reviewed and answered. He admits that infection by occasional contact is possible, but says that the chances against it are so many that it can not be relied on as a cause of an epidemic.

Australasian Medical Gazette, Sydney.

September 21.

- 22 Mechanism of the Paroxysmal Neuroses. Francis Hare.
- 23 A Case of Recurrent Paralysis of the Third Nerve. Sinclair Gillies.
- 24 Diabetes. (Continued.) C. Reissmann.
- 25 *Two Hundred Cases of Appendicitis. H. Critchley Hinder.
- 26 The Protean Methods of Hydatids. A. S. Joske.
- 27 The Surgical Treatment of Senile Enlargement of the Prostate. W. Anstey Giles.
- 28 Notes on Three Cases of Scirrhus of the Breast. Robert Scott.
- 29 *Short Notes on the Radical Cure of Umbilical Hernia. C. E. Todd.

25. Appendicitis.—Hinder advocates operation and thinks recovery from general peritonitis depends on the rapidity with which patients are submitted to operation. He agrees with the theory that appendicitis is usually caused by interruption of the outflow of the mucous secretion of the organ and that

this interruption is caused primarily by a congenital narrowing near the cecal end of the appendix. This becomes a complete blockage from causes arising within or without the organ, for example, a concretion thus produced causes inflammation which effectually closes the already narrow outlet.

29. Umbilical Hernia.—Todd emphasizes the importance of not opening the hernial sac from the outside if it can be avoided; also that an abdominal incision should be made well away from the bulging; whether above it or to one side matters very little. The first incision should be long to give room to examine the structures. He says that operation in the early stages would save many fat and elderly women much trouble.

Intercolonial Medical Journal of Australasia, Melbourne.

September 20.

- 30 A Retrospect of Personal Experience of the Treatment of Post Nasal Growths. T. K. Hamilton.
- 31 Same title. A. J. Brady.
- 32 Same title. J. Lockart Gibson.
- 33 Personal Experience of Post-nasal Adenoids and Their Treatment. James W. Barrett.
- 34 The Medical and Surgical Treatment of Spasmodic Torticollis, with an Illustrative Case. Robert B. Duncan.
- 35 The Determination of the Arterial Blood Pressure in Clinical Practice. C. J. Martin.
- 36 A Case of Anorexia Nervosa, which Later Developed Myxedema, Followed by Safe Parturition. J. W. Dunbar Hooper.

Annales de Dermatologie et de Syph., Paris.

Last indexed page 992.

- 37 (IV, Nos. 8-9.) *L'histo-pathogénie du psoriasis. G. Verrotti (Naples).
- 38 *Histologie du lichen chronique circonscrit (neurodermite circonscrite). E. Dalous (Toulouse).
- 39 *Abscess sous-cutanés multiples d'origine mycotique. de Beurmann and Ramond.
- 40 Gangrene of Nose in Tertiary Syphilis. F. Balzer and C. Fouquet.—Sphacèle de l'extrémité du nez dans un cas de syphilis tertiaire accompagné de la maladie de Raynaud.
- 41 Phlycténose récidivante des extrémités. E. Bodin. One case.

37. Histopathogenesis of Psoriasis.—Verrotti's article is a presentation of arguments in favor of the conception that psoriasis commences primarily as a congestion, involving the entire derma. It assumes later the character of an inflammation in the papillary and subpapillary layers, causing a series of changes in the rete mucosum by the degeneration of the vacuoles and reactive proliferation, the resulting product of which is parakeratosis. He proclaims that the conception of a toxemia as presiding over the production of the cutaneous lesions in psoriasis is justified by the nature and the evolution of the histologic changes.

38. Histology of Chronic Circumscribed Lichen.—Dalous describes 2 cases very carefully studied and announces his opinion that this affection may be defined as a peripheral neuritis of central origin.

39. Subcutaneous Abscesses of Mycotic Origin.—The patient was a man of 37 who exhibited thirty-five small tumors irregularly distributed over his body and head, the face exempt. The tumors were only slightly painful under palpation and in appearance suggested hydatid cysts, but each contained pus resembling that of tubercular lesions. A mould fungus was derived from the abscesses, which did not prove pathogenic for animals, but autoinoculation from the abscesses reproduced them on the subject. Energetic treatment with potassium iodid was followed by the complete retrogression of all the tumors in about six weeks.

Bulletin de l'Académie de Médecine, Paris.

- 42 (LXVII, No. 31.) Sur l'organisation et le fonctionnement de l'assistance médicale indigène à Madagascar, 1902.
- 43 *De la tuberculose articulaire et abarticulaire et des séries morbides parallèles. C. Fernet.

43. Tuberculosis of the Joints.—Fernet's experience has confirmed that of others in regard to the manifestations of tuberculosis in the joints. They may assume an acute or chronic form, and they resemble in many respects those of articular rheumatism. They have been called, therefore, tuberculous rheumatism, tuberculous pseudo-rheumatism, etc., but he protests against these appellations as indicating a relationship to rheumatism which does not exist. It is more correct to say articular tuberculosis just as we say pulmonary tuberculosis. In other words, the tuberculosis may manifest itself in morbid

series which parallel those of acute or chronic rheumatism in their localization in the joints or elsewhere. But the lesions have nothing in common except their site. They differ in causation, pathologic anatomy and in their symptoms. They should, therefore, be differentiated and entitled differently.

Presse Médicale, Paris.

- 44 (No. 80.) *La chlorurémie et la cure de déchloruration dans le mal de Bright. F. Vidal and A. Javal.
 45 *Les syndromes solaires expérimentaux. L. Lavastine.
 46 (No. 81.) *Etude clinique sur l'ictère syphilitique. F. Simionescu (Bucharest).
 47 La diazo-réaction d'Ehrlich dans la tuberculose pulmonaire chronique. H. Hamant and A. Goris.
 48 (No. 82.) Les sanatoriums de Leysin, 1902-3. M. Morin.
 49 Appendicocèle extra-péritonéale et appendicite herniaire extra-péritonéale. F. Guibal and E. Roland. One case and review of 7 in the literature.

44. Chloridemia and Treatment of Bright's Disease by Dechloridation.—The details of careful study of 6 patients treated by dechloridation are given and one case is tabulated with all the particulars. Vidal's announcements in regard to the importance of a salt-free diet in nephritis have been reviewed in these columns as published with editorial comment last week. He proclaims that it is absolutely necessary to know the variations in the "salt equilibrium" in a nephritic patient before treatment can be intelligently instituted. He measured the amount of salt ingested and eliminated, keeping close watch of the weight of the patient. By this means it is possible to note the onset of what he calls the pre-edema period. When the results of these tests showed that the kidney was impermeable for salt, then he administered various diuretics, allowing several days to each period and to the intervals. He found digitalis incapable of inducing diuresis when the renal lesion is not complicated by cardio-vascular troubles. The edema in Bright's disease is not produced, like cardiac edema, by insufficiency of the vascular apparatus, but merely by the lack of permeability on the part of the kidney to sodium chlorid. Theobromin is the heroic remedy for this condition; it opens the sluices of the kidney and by re-establishing the outward flow of the chlorids frees the organism of the chlorids which have been retained in it, and eliminates with them the retained water in the saving polyuria. No other diuretic can be compared with it, and its efficacy in pure Bright's disease confirms the assumption that the cause of the retention of fluids causing the edema lies in the kidneys. Sodium chlorid is probably not the only substance arrested by the diseased kidney, but it is the one whose retention is the cause of the chief troubles. As it accumulates in the tissues it raises the index of the concentration of their juices, and this in turn attracts the water to restore the balance. As salt is thus responsible for the disturbances its intake must be restricted. Many persons with Bright's disease improve and thrive on a mixed diet containing meat, bread, sugar, potato and butter so long as no salt is given with them. Milk contains too much salt for large quantities to be advisable in severe cases. Clinical experience is confirming more and more the value of this method of dechloridation when the impermeability of the kidney for salt has been determined by the alimentary salt test or otherwise. It is usually sufficient alone to free the patients from edema, but may be supplemented by use of theobromin or theocin when more rapid action is desired. They owe their efficacy to their power of rendering the kidney permeable to salt. As the salt is eliminated the water retained to hold it in solution escapes with it.

45. Experimental Solar Syndrome.—Lavastine remarks that we can detect a "solar note" in certain perturbations of the visceral functions. He has reproduced them experimentally and shows that an organic lesion is not necessary—a mere perversion in the solar regulating mechanism is sufficient to throw one or more of the viscera out of gear. Insufficiency of the liver may be due to this cause, as well as some of the symptoms noted in lead poisoning, peritonitis, etc. A number of affections hitherto classified by their pathologic anatomy are in reality merely manifestations of derangement of the solar plexus. The syndrome of acute solar paralysis is realized in peritonitis; the syndrome of acute solar irritation is seen in lead poisoning; the subacute and chronic forms of irritation

are seen in lead poisoning entailing paralysis of the solar plexus, and also in muco-membranous colitis in nervously irritable subjects. The fourth form of solar pathology he calls the syndrome due to irradiation: death may follow a blow on the abdomen, or ingestion of ice affecting the stomach like a traumatism, and arrest of the heart in diastole observed in liver or kidney colic is due to this cause. Potain witnessed a case in which the pulse was slowed by the influence of the solar plexus. The possibility of a solar factor should, therefore, be thought of in certain syndromes involving the viscera.

46. Syphilitic Icterus.—Simionescu ascribes to syphilis every case of icterus observed in a syphilitic subject presenting secondary manifestations—unless there is proof to the contrary. All syphilitics do not present the symptoms of icterus, as individual predispositions differ. He describes 4 cases. The icterus subsided under specific treatment.

Semaine Médicale, Paris.

- 50 (No. 40.) Contribution à l'étude du mécanisme des mouvements volontaires et des fonctions du faisceau pyramidal. G. Marinesco.
 51 *Diagnostic Sign of Twin Pregnancy. I. Levinovitch.—Un signe susceptible de faciliter le diagnostic de la grossesse gémellaire.
 52 Letters from America. F. Munch.—Sur la désinfection chirurgicale, and La chloroformisation et l'éthérisation aux Etats-Unis.

51. Sign of Twin Pregnancy.—In a normal pregnancy the uterus develops retaining its spherical outline, but in case of twin gestation the tendency is to develop more laterally. The fetuses are usually arranged side by side and the distension in the transverse diameter reduces the traction on the round ligaments until they become much shorter and looser. These ligaments share in the general hypertrophy of the uterus during a pregnancy and they can be readily palpated in a normal gestation. The determination of these ligaments by palpation as a round, prominent ligament under considerable tension, excludes the idea of a twin gestation.

Revue de Gynécologie, Paris.

Last indexed page 898.

- 53 (VII, No. 4.) *The Blood in Case of Ovarian Cysts. X. Bender.—Recherches sur l'état du sang dans les kystes de l'ovaire.
 54 Recherches sur les altérations sérielles des vaisseaux sanguins et sur le tissu de l'utérus. H. Szasz-Schwarz.
 55 Actinomycose de l'appendice vermiforme. M. Letulle.

53. The Blood in Case of Ovarian Cysts.—Bender gives the blood findings in 23 cases of various kinds of ovarian cysts and proclaims that it is possible to determine the benign or malignant character of the cyst by examination of the blood. The neoplasm is certainly non-malignant if the whites do not number more than 6,000 to 8,000. When the proportion of reds is normal, the presumption is against malignancy even in case of considerable leucocytosis. Only when the reds are below normal and the whites materially increased, are we justified in assuming malignant cancerous degeneration.

Revue de Médecine, Paris.

Last indexed page 212.

- 56 (XXIII, No. 6.) L'hygiène du baiser (of the kiss). C. Féré.
 57 *The Tonsils and Uvula in the Tuberculous. E. E. Escomel.—Les amygdales palatines et la lètte chez les tuberculeux.
 58 Sur la lésion dite sténose congénitale de l'aorte dans la région de l'isthme. L. M. Bonnet. (Commenced in No. 2.)

57. The Tonsils and Tuberculosis.—Escomel regards the tonsils as "the most tuberculizable organs in the entire digestive tract." He found them the seat of tuberculous lesions in 21 out of 25 cadavers of consumptives examined. In 11 non-tuberculous cadavers the tonsils were intact. In the tuberculous cases the follicles almost always contained other parasites, which may have favored the lodgment and growth of the tubercle bacilli.

Archiv f. Gynäkologie, Berlin.

Last indexed page 1033.

- 59 (LXIX, No. 3.) *Regeneration of Uterine Mucosa After Childbirth. E. Wormser (Basle).—Die Regeneration der Uterusschleimhaut nach der Geburt.
 60 Non-formation of Decidua in Phosphorus Poisoning Outside of Pregnancy. F. Hirschmann and O. T. Lindenthal.—Zur Frage der Dezidua-Entstehung bei Phosphorvergiftung.

- 61 *Der weisse Infarkt der Plazenta. J. Hitschmann and O. T. Lindenthal.
 62 *Beitrag zur Kenntnis des Corpus-Carcinoms. F. Hitschmann.
 63 Das Vorkommen von Decidua in der Cervix. R. Volk (Schauta's clinic, Vienna).
 64 Secondary Abdominal Gestation in a Rabbit. A. Sittner (Brandenburg).—Abdominal Bauchschwangerschaft beim Kaninchen.
 65 Study of 1,000 Neonatorum in the First Days of Life. H. Hirschl (Prague).—Ueber die Gesundheitsverhältnisse bei 1,000 Neugeborenen in den ersten Lebenstagen.
 66 The New Gynecologic Clinic at Dresden. G. Leopold.—Zur Eröffnung der neuen k. Frauenklinik in Dresden.
 67 *Correction. L. Bossi.—Berichtigung.

59. Regeneration of Uterine Mucosa After Childbirth.—Wormser gives a number of illustrations to show the various processes of regeneration. By the end of the third week he found all the elements of the mucosa approximately normal. His monograph of 126 pages reviews 53 other published communications on the subject.

61. White Infarct in the Placenta.—These writers argue that the so-called white infarct is rather of the nature of a thrombosis.

62. Study of Corpus Carcinoma.—Hitschmann warns that every manifestation of epidermis formation in the mucosa of the uterus deserves attention, even if there is no evidence of tumor formation. He thinks there are no grounds for the assumption of a psoriasis or ichthyosis uterina, but metaplasia of the columnar into pavement epithelium is a frequent accompaniment of adenocarcinoma of the fundus. He reviews his findings in 7 typical cases and in 3 of pure epithelioma, all of the fundus.

67. Instrumental Dilatation.—Bossi proclaims that experience is demonstrating that instrumental dilatation is especially indicated for primiparae and in case of entirely unshortened cervix, when rapid delivery is required in eclampsia, etc.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1054.

- 68 (XXXIX, No. 1.) Ueber das Rhinophyma. P. von Bruns (Tübingen). Eleven cases.
 69 Enlargement of Bony Nose by Mucous Polyp. Burck.—Verbreiterung der knöchernen Nase durch Schleimpolypen.
 70 *Zur operativen Behandlung der Darm-Invagination über dem Prolapsus intestinalis invaginati. E. Hofmeister.
 71 Zur Kasuistik der Bauchblasengentialspalte (exstrophy of bladder). C. Blauel. One case.
 72 *Pneumokokken-Peritonitis als ein typisches Krankheits-Bild. M. v. Brunn.
 73 *Experiences with Posterior Gastroenterostomy. Trendel.—Ueber die mit der Gast. post. in der Tübinger Klinik gemachten Erfahrungen.
 74 *Zur Anatomie und Pathologie des Pankreas und der Gallenwege (biliary passages). O. v. Bünchner (Hanau).
 75 Inkarnation des Wurmfortsatzes (of appendix). Schöne.
 76 Cure of Case of Rhinoskleroma with X-Rays. O. Fittig (Breslau).—Ueber einen mit Röntgenstrahlen behandelten Fall von Rhinosklerom.
 77 *Operative Treatment of Cancer of Stomach at Krönlein's Clinic, Zurich, Schönholzer.—Chirurgie des Magenkrebses an der K.'schen Klinik von 1881 bis 1902.

70. Operative Treatment of Invagination of Intestines.—Hofmeister relates a number of interesting cases from von Bruns' clinic. He advocates resection of the invaginated portion as the standard procedure, and recommends a modification of von Frey's technic. The operation is certain and rapidly done. The afferent intestine is drawn out and divided. The proximal stump is closed with a suture. The peripheral stump is allowed to slide down into the invagination funnel; then follows a lengthwise incision in the invagination a few inches below the turned-over part. A ligature is applied as high up as possible, and the inner cylinder is resected, after which the stumps are united by side anastomosis, utilizing the lengthwise incision mentioned above. He gives diagrams to illustrate the technic.

72. Pneumococcus Peritonitis.—Brunn analyzes 2 cases personally observed and 56 in children that have been reported in the literature with 15 in adults, and a number of others that lack bacteriologic confirmation. The prognosis is favorable. Spontaneous healing is possible but rare; treatment should consist in evacuation of the abscess by a broad opening with drainage. The diagnosis is based on the fibrinous plastic exudate, which is promptly walled in by adhesions, causing symptoms of acute peritonitis followed soon by a chronic stage with comparatively mild peritonitic symptoms. The pus is a greenish yellow, abounding in fibrin.

73. Experiences with Posterior Gastroenterostomy.—Trendel states that only 21.4 per cent. of 28 patients operated on at Tübingen succumbed within four weeks, and only 18.2 per cent. in the 269 cases of the united statistics of Czerny (215), Steinthal (26), and von Bruns (28). No instance of pure stomach ileus was observed. He uses a short loop and the Murphy button. The button was successfully applied in all but 3 cases, but in a fourth it dropped into the stomach and was the cause of fatal after-hemorrhage.

74. Anatomy and Pathology of Biliary Passages.—Bünchner found that the common bile duct passed through the head of the pancreas in nearly every one of the 58 cadavers examined. In only 5 per cent. did it pass to one side. He also found that this duct and the pancreatic duct open with separate orifices in the floor of the diverticulum of the papilla. All affections which entail enlargement or shriveling of the head of the pancreas must cause constriction not only of the pancreatic duct but also of the common bile duct. An affection of one duct does not necessarily entail involvement of the other.

77. Surgery of Gastric Cancer at Zurich.—Of the 264 cases observed, 67 were not operated on; in 73 an exploratory laparotomy was alone attempted; 74 were treated by gastroenterostomy and 50 by resection. Of the inoperable cases 51 lived on an average 73 days afterward. The 14 patients declared operable but who refused surgical intervention, lived an average of 200 days. Heredity was noted in 13 per cent. The mortality of exploratory laparotomy proved to be 9.5 per cent. The mortality in the 74 cases in which gastro-enterostomy was done was 24.3 per cent. It is indicated, Krönlein believes, in cases of inoperable carcinoma of the pylorus with actual stenosis. The retrocolic method shows a mortality of only 16 per cent., and hence seems to be preferable to the Wölfler operation. He uses brief ether narcosis for the cutaneous incision, completing the operation without further anesthesia. The gastro-enterostomy prolonged life on an average for 100 days. In 17 cases the patients were relieved to such an extent that life was prolonged for an average of 410 days. In 17 others the average survival was for 141 days, and in 21 for 64 days. The details of the 74 cases of gastro-enterostomy are related, filling 112 pages. In 56 of the 74 cases the stomach had never given trouble. In 3 there had been a preceding ulcer, and in 7 there had been no vomiting. The first symptoms appeared on an average nine months before the operation; in 9 cases only three or four months had elapsed. The most important diagnostic sign is the emaciation. It was constant, and frequently the first symptom that brought the subjects to the physician, when no other symptoms were apparent except possibly loss of appetite and eructations after meals. The patients in many instances had never thought of their stomach in connection with the emaciation and neither did the physician, but instituted treatment of the assumed anemia, etc. The facts observed emphasize the importance of systematic weighings, and the loss of much important information by the usual neglect of this. Symptoms of any stomach trouble, no matter how apparently benign, if accompanied by emaciation, should suggest the possibility of cancer, and exploratory laparotomy is indicated. The progress of the emaciation is also an important sign. If the subject with a stomach affection loses thirty pounds in a few days the trouble is probably a benign stenosis of the pylorus, while the same loss of weight occurring in the course of six months is presumptive of cancer. In 60 of the 74 cases the gastric secretions were tested and no free hydrochloric acid could be detected in 54, while it was present in the rest, and all exhibited motor insufficiency. In one a cherry stone was found in rinsing the stomach that must have sojourned there for two months. Krönlein's experience confirms the view that cases of carcinoma of the pylorus in which extirpation is impossible, are the most satisfactory subjects for gastro-enterostomy.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed page 1120.

- 78 (LVII, No. 5.) Ueber Pemphigus contagiosus. E. Hagenbach-Burckhardt (Basle).

- 79 *Das Diphtherie-Hell-Serum, seine Wirkungsweise und Leistungsgrenze bei Larynx-Stenose. Wieland (ibid.).
 80 *Ueber paroxysmale Hemoglobulinurie. E. Burckhardt (ibid.).
 81 Treatment of Club-Foot at Basle. W. Armann.—Die Behandlung des kongenitalen Klumpfußes an der Poliklinik des Baseler Kinderspitals.

79. Antidiphtheria Serum.—Weiland's article was prepared as a thesis. He ranks the local inhibiting influence of the serum far above its antitoxic action. His experience confirms that of others that serum treatment has more chances of success in the more gradual, protracted cases than in those with tempestuous rapid course.

80. Paroxysmal Hemoglobinuria.—Burckhardt had occasion to study a case of this affection in a six-year-old boy, and became convinced that the attacks were brought on by congestion or chilling in every instance. The blood serum did not seem to possess a hemolytic action outside of these attacks.

Monatsschrift f. Geb. und Gyn., Berlin.

Last indexed XL, page 1405.

- 82 (XVII, No. 6.) *Incision of Fascia Above Symphysis. Menge (Leipzig).—Ueber den suprasymphysären Faszienchnitt nach Pfannenstiel.
 83 *Rupture of Uterus and Its Mechanism. E. Knauer (Graz).—Einige seltene Fälle von Gebärmutterzerreissung mit bes. Berücksichtigung der Mechanik der Zerreissung.
 84 *Dilatation of Cervix According to Bonnaire. R. J. T. Meurer (Amsterdam).—Ueber schnelle Erweiterung des Muttermundes nach Bonnaire.
 85 *Functional Capacity of Mammary Glands and Indications and Contraindications for Breast Nursing. A. Schlossmann (Dresden).—Ueber die Leistungsfähigkeit der weiblichen Milchdrüsen und über Indikationen und Kontraindikationen zum Stillen.

82. Advantages of the Oblique Arc Incision.—Menge has opened the abdomen by Pfannenstiel's technic in 62 operations and ascribes certain advantages to it over the ordinary vertical incision. If the wound heals by primary intention there is no danger of hernia, but it is liable in case of suppuration. His patients made a smooth recovery in all but 4 cases. The scar is almost imperceptible or is hidden by the hair, and the elastic strain of the abdominal muscles keeps it linear. There does not seem to be the slightest tendency to callus formation or pigmentation at this point. He uses dry asepsis and cumolized catgut, and thinks this incision is preferable for many operations on the internal genitalia in which the uterus is to be retained.

83. Mechanism of Rupture of Uterus.—Knauer has recently observed a case in which a bunch of caseous lymph glands prevented the passage of the fetal head into the pelvis. This entailed such distension of the lower segment of the uterus that it ruptured. A hematoma developed, causing in turn such distension of the peritoneum that this also ruptured. The patient succumbed to subsequent peritonitis. In 3 other cases in which the placenta was prematurely detached, the internal hemorrhage caused distension which finally ruptured the uterus wall and peritoneum, the latter in several places. He does not know whether the tissues were previously weakened, but he points out that every case of sudden distension of the uterus with progressive anemia and no external escape of the hemorrhage should suggest the possibility of impending rupture and these fissures in the peritoneum.

84. Dilatation of Uterus According to Bonnaire.—Meurer has been well satisfied with the results in 29 cases in which dilatation was accomplished by Bonnaire's technic.

85. Indications and Counterindications for Breast Nursing.—Tuberculosis in the mother can scarcely be regarded as a contra-indication to nursing her child. The danger of infecting the infant by other means than the milk is far more probable than the danger of transmitting infection in the milk. The tuberculous mother does not seem to suffer from exercise of the mammary function, but a tuberculous wet nurse is out of the question. When tuberculosis is suspected in a wet nurse and the response to tuberculin is negative, several weeks of observation are necessary to fully decide the question. An injection of tuberculin does not affect the mammary secretion nor the nursing. Schlossmann advises leaving the child at the breast during a mastitis if no pus cocci are found in the milk. If the milk contains pus cells the breast should be treated,

but the infant can still nurse the sound side. He adds that there are no absolute contraindications to breast nursing, but in individual cases it may sometimes be necessary to decide whether it is best for the mother to nurse her child or not.

Therapeutische Monatshefte, Berlin.

Last indexed page 69.

- 86 (XVI, No. 6.) Ueber Veronal. W. Berent.
 87 Dress Reform. Schaeche.—Zur Frage der Reformkleidung.
 88 Study of Certain Oils. K. Herxheimer.—Ueber die dermatotherapeutische Verwendung einiger Öle.
 89 Zur Kenntnis einiger Morphin-Derivate. A. Mayor.
 90 *Industrial Inhalation of Fumes of Phosphoric Acid. Böttlich. Ueber die gesundheitliche Bedeutung des Aufenthaltes in den Formleräumen von Akkumulatoren-Fabriken.
 91 Electro-magnetic Treatment of Scleritis. P. Krefft.—Zur Ischias-Behandlung.
 92 Zur aseptischen Tamponade der Nase, etc. E. Fink.
 93 Ueber ein ex tempore bereitetes Eisenwasser (Iron solution). W. Jaworski.

90. Benefit to Health from Fumes of Phosphoric Acid.—When a person unaccustomed to the fumes of phosphoric acid enters the room in which storage batteries are made, he is almost suffocated. Böttlich has been engaged for fifteen years in supervising the health of the employes in a large factory of this kind at Hagen, examining the men every week. In the making of the storage batteries the employes are apparently exposed to severe irritation of the respiratory organs from the fumes of the acid, and also to the danger of lead poisoning. In all his experience, however, he has never encountered a typical case of lead poisoning among the 45 to 60 men constantly employed at this work, some for as long as ten years. He has also been impressed by the fact that the mucosa of the upper-air passages is unusually sound and resistant. Not a single case of tuberculosis is known among the men and catarrhal affections seem to subside in a remarkably brief time. Several of the men who entered on the work with pulmonary tubercular lesions have regained their health while employed in the storage battery rooms. The general health of the men averages twice as high as that of a similar body of men engaged in a neighboring iron works where railroad supplies are made. He has been so impressed with the salutary effects observed that he suggests the therapeutic application of the fumes of acids used in the preparation of storage batteries. The same conditions could easily be produced elsewhere than in a factory, and he thinks the facts observed justify attempts in this line.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 217.

- 94 (L. Nos. 1-2.) *Pathologisch-anatomische Studien für die klinische Diagnostik des hämorrhagischen Lungen-Infarktes. E. Tiedemann (Berlin).
 95 *Klinische und experimentelle Beiträge zur Leukemie-Frage. P. Reckzeh.
 96 *Lead Colic. M. Mosse.—Zur Kenntnis der experimentellen Bleikolik.
 97 Zur Histogenese der lymphatischen Leukemie. Ibid.
 98 Schwere Knochenerkrankung im Kindesalter. Osteomalacie? Rachitis? E. Roos (Freiburg).
 99 *Subcutaneous Feeding with Fat. H. Winternitz (Halle).—Zur Frage der subkut. Fetternahrung.
 100 Beiträge zur Lehre vom muskulären Kardialverschluss. F. Sinnhuber.
 101 Ueber das Distomum Ringeri (Cobbold). Z. Inouye (Chiba, Japan).
 102 Urate Deposits in Tissues. K. A. Krause.—Zur Kenntnis der Uratablagerungen.
 103 *Ueber Antistreptokokken-Serum. F. Meyer (von Leyden's clinic, Berlin).
 104 *Urobilin in Stomach. A. Braunstein (ibid.).—Ueber Vorkommen und Entstehung von Urobilin im menschlichen Magen.

94. Diagnosis of Infarct in Lungs.—Tiedemann remarks that the pathologic anatomy of infarct in the lungs indicates that if the hemorrhagic infarct is situated near the surface the resonance will be deadened over the spot. Sometimes there is a tympanitic resonance, owing to the vibrations of the air in the bronchi and the relaxation of the adjacent lung tissue. The vocal fremitus is increased except when the infarct is so large as to exert pressure on the chest wall. The infarct was found in the right lower lobe in 15 cases; in the right upper in 7; in left lower lobe in 5; left upper in 4, right median lobe in 2, and once in the left apex. The presence of a cardiac defect or other trouble entailing disturbances in the circulation is an important aid in the diagnosis. Rales may be audible as long as the alveoles are not entirely filled with coagulated blood, but after the infarct has developed, the sounds heard can pro-

ceed only from the pleura above it, from the bronchi or from the surrounding alveolar tissue. While it may be impossible to hear vesicular breathing over the infarct, yet the air-free tissue proves a good conductor for sounds originating in the adjacent bronchi. Circumscribed bronchial-tube breathing may, therefore, be regarded as characteristic. The infarct is usually shaped like a wedge, the broad end toward the pleura, about as large as a walnut or cherry.

95. Leukemia.—In one of the 7 cases of leukemia described there were malarial antecedents, in 3 trauma. Four were of the chronic lymphatic type and 2 of the mixed form. In one there was a combination of pernicious anemia with mixed-cell leukemia. In a case of almost pure lymphemia the proportion of lymphocytes to the polynuclear neutrophils was 99/1. In a case of pseudo-leukemia the lymphocytes were somewhat increased with indicanuria and obstinate profuse sweats, but there were no neutrophils. Reckzeh also mentions 2 cases of tuberculosis of the lymphatic glands in which the blood was almost normal.

96. Experimental Lead Colic.—Mosse found that it was possible to induce cellular alterations in the celiac ganglion similar to what are found in lead colic, by administering drugs which cause violent contraction of the intestines. These lesions in the ganglion are evidently the result of the violent muscular spasms in the intestine caused by the lead.

99. Subcutaneous Oil Feeding.—Winternitz administered fats in combination with iodine in subcutaneous injections. The fat thus taken was entirely absorbed and assimilated, but the organism is not capable of taking up more than 20 to 25 calories a day in this way, and months may elapse before a deposit of 500 gm. is entirely absorbed. Not more than 2 to 3 gm. is absorbed during the twenty-four hours even under the most favorable circumstances.

103. Antistreptococcus Serum.—Meyer has been testing the various serums of this kind and finds that Aronson's is the only one that absolutely protects animals against several times the otherwise fatal dose, and cures after infection. The intravenous route was found far superior to the subcutaneous and intraperitoneal. The serum from 2 patients who had passed through severe streptococcus infection likewise proved to have protecting power to a certain extent, although very large amounts were necessary. Aronson's serum does not check the growth of streptococci *in vitro* nor attenuate their virulence, but they became very much less virulent when grown in the peritoneum of a protected rabbit. The streptococci probably become attenuated in the body of a protected animal, and thus fall an easy prey to the cells. All the tests showed that the earlier the injection is made after infection the better the results.

104. Urobilin in Stomach.—Braunstein's experiments demonstrated that urobilin is not found in the stomach except when the bile entering it already contains urobilinogen. The transformation of the latter into urobilin is promoted by hydrochloric acid. The urobilin in the stomach is thus of enterogenic origin, the same as that in the intestines.

Brazil Medico, Rio de Janeiro.

Last indexed XL, page 66.

- 105 (XVI, No. 43.) Observações sobre a peste. Borel. (Concluded.)
- 106 (No. 44.) Nova contribuição ao estudo dos reflexos tendinosos na fase post-paroxística da epilepsia. J. Moreira. (Concluded.)
- 107 (No. 45.) Xiphothoracopago operado; o estado actual de Rosalina. Chapot Prévost (Rio).
- 108 (XVII, No. 1.) Cirurgia dos monstros duplos. Ibid. (Concluded.)
- 109 *Tratamento da erysipela. Brant Paes Leme.
- 110 *Tratamento das contusões. Ibid.
- 111 (No. 3.) Notas acerca do Impudismo e da febre amarela. F. Fajardo. (Concluded.)
- 112 (No. 4.) *A soroterapia na peste bubônica. A. Ferrari.
- 113 (No. 6.) *A estychnina na fisiologia experimental e no tratamento da febre amarela. A. Ferrari. (Concluded.)
- 114 (No. 9.) *Propagação da febre amarela pelos mosquitos. Jorge Pinto and others. (Concluded.)
- 115 (No. 10.) 2 casos de septicemia cryptogenetica. O. de Oliveira.
- 116 (No. 11.) Nervoses e psychoses ligadas a intoxicações. Notas clinicas. M. Guimaraes.
- 117 (No. 12.) Notas clinicas sobre a gripe infantil. Ibid.
- 118 (No. 13.) O ozena na primeira infancia. N. da Rocha.

- 119 (No. 14.) *Therapeutica da febre amarela. O serum glycosado. M. Guimaraes.
- 120 (No. 17.) Etiologia infecciosa da histeria. Um caso de astasia-abasia. H. Roxo. (Concluded.)
- 121 (No. 21.) Disposição segmentaria de certos sinais cutaneos na febre amarela (in yellow fever). A. Austregesilo.
- 122 (No. 22.) Antituberculosis Circular Issued By Board of Health.—Conselhos contra a tuberculose.
- 123 (No. 23.) Interpretação da integridade da musculatura intrínseca ocular na ophthalmoplegia nuclear. V. de Brito.
- 124 (No. 24.) *Experiments with Transmission of Yellow Fever by Mosquitoes. I. Bandi.—Sobre o valor das experiencias realizadas no Hospital de S. Paulo para demonstrar a veracidade da theoria da transmissao da febre amarela pelos pernilongos do genero "Stegomyia fasciata."
- 125 (No. 25.) O chlorureto de ethyla na cirurgia infantil. A. de P. Guimaraes.
- 126 Discussion of Prophylaxis of Yellow Fever at Fifth Brazilian Medical Congress.

109. Treatment of Erysipelas.—Paes Leme supplements the ordinary internal measures with a local spray of a concentrated ether solution of camphor and a spray of 1 per 1,000 solution of sublimate. The wound which is the starting point for the infection is treated antiseptically and sometimes the patch and the surrounding region are painted with iodine, which he also gives internally.

110. Treatment of Contusions.—The same writer applies 15 per cent. mentholized collodion to the contused region to reduce the superficial pain, and dry cupping in contusions of the thorax and shoulders.

112. Serum Treatment of Plague.—Ferrari's experience with serum treatment has been extremely favorable. He found that it acted rapidly, without local reaction, and the general reaction was transient and insignificant in most cases. The duration of the disease was much reduced and the reabsorption of the exudate in the infected ganglia was facilitated and hastened. His 56 cases had a mortality of 15.3 per cent., but 2 of the patients were moribund when first seen. The mortality of the severe cases was 22 per cent. and in 6 cases of the most serious form of secondary plague pneumonia only 33 per cent.

113. Strychnin in Yellow Fever.—Ferrari has found strychnin very useful in infectious diseases, especially in yellow fever.

114 and 124. Transmission of Yellow Fever by Mosquitoes.—The committee appointed to study this subject make a formal report of 3 cases in which men voluntarily allowed themselves to be bitten by mosquitoes previously infected for the tests. Each one of the 3 developed yellow fever after the due period of incubation, and in one it was very severe, in the others light. They regard the tests as completely verifying the experiences of the United States physicians at Havana. Bandi denies the typical character of the disease produced and claims that the tests were inconclusive.

119. Glucosed Artificial Serum in Treatment of Yellow Fever.—Guimaraes has only a single case to report but the benefit derived from the injections was so remarkable that he does not wait for further confirmation. The fluid used was a mixture of 200 c.c. of a 1 per 1,000 solution of sodium chlorid and 10 gm. of chemically pure glucose. He injected 10 c.c. at a time and the pulse dropped almost at once from 140 to 116, declining to 100, 96 and 84, while all the other symptoms rapidly subsided. He has treated in the same way a patient with toxemia from gin liver and the benefit was equally marked.

Medizinskoe Obozryenie, Moscow.

- 127 (LIX, No. 9.) Primary Echinococcus Cyst in Ovary. A. Kablukoff.—Pervitchno-odnotchnii ekhinokokk yaltchnika.
- 128 *Atropin in Intestinal Obstruction. V. V. Stavsky.—O primyenenii atropina pri neprokhodimosti kishek.
- 129 (No. 10.) Pseudoleukemia of the Skin. T. Gershaun.—O psevdolevkiemii kozhi.
- 130 *Esophagotomy for Foreign Body. P. I. Kuzmin.—K Kaznislk naruzhnago syetchenlya pishtchevoda pri enorodnykh tyelakh v nem.

128. Atropin in Intestinal Obstruction.—Stavsky concludes from the study of the literature and from the remarkable results obtained in 4 cases in his own experience, that atropin is a most valuable drug in certain cases of acute ileus. He injected subcutaneously .003 gm. atropin, followed two hours later by half the dose. The record has been favorable in 49 cases and in 9 the ileus terminated fatally. Atropin certainly deserves a trial, he states, in every case in which operation is contraindicated for any reason.

130. Esophagotomy for Foreign Body.—Kuzmin advises immediate recourse to external esophagotomy when a large fish bone or other foreign body with jagged edges has lodged in the esophagus. The operation is very simple and can be done by even the country practitioner without difficulty. When the wall of the esophagus is not injured by attempts at extraction, the wound heals rapidly and fluid food can be taken in two days after the operation.

New Patents.

- Patents of interest to physicians, etc., October 6 and 13:
- 740385. Electrotherapeutic appliance. William B. Bassell, Columbus, Ohio.
 - 740519. Producing beverages. Frida Brandner, Brooklyn.
 - 740801. Pill counting machine. William Brough, Baltimore.
 - 740811. Chocolate dipping machine. Patrick J. Costello, Chicago.
 - 740424. Producing compounds for disinfecting purposes. Robert G. Groppler, Berlin, Germany.
 - 740835. Mercurous chlorid. Carl H. von Hoessle, near Dresden, Saxony, Germany.
 - 740867. Invalid bed. Richard L. Johnson, Rolla, Mo.
 - 740873. Apparatus for treating skin diseases, etc. Jakob Kjeldsen, Copenhagen, Denmark.
 - 740910. Suppository. Alexander H. Peloubet, Newark.
 - 740702. Acetylalicylate of sodium. Bruno R. Seifert and F. R. Engelhardt, Radebeul, Germany.
 - 740476. Artificial limb. John K. Shanaman, Annville, Pa.
 - 740714. Apparatus for the medication of air. John Titus, Oyster Bay, and W. Titus, Old Westbury, N. Y.
 - 741461. Pill machine. Ernest C. Clark, Detroit.
 - 741243. Making acetate of soda. William M. Grosvenor, Edgewater Heights, N. J.
 - 741345. Pessary. Leo Knopf, Burstadt, Germany.
 - 741585. Producing glycerin and acidylated derivatives of aromatic bases and the product thereof. Oscar Liebreich, Berlin, Germany.
 - 741521. Body support. William U. G. Martin, Indianapolis.
 - 741411. Artificial leg. Ole P. R. Pold, Copenhagen, Denmark.
 - 741371. Apparatus for the treatment of defective hearing. Guy C. Powell and A. D. Smith, Peoria, Ill.
 - 741173. Sanitary urinal. John Seidel, Milwaukee.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U. S. A. With the Collaboration of William Osler, M.D., Baltimore; John H. Musser, M.D., Philadelphia; James Stewart, M.D., Montreal; J. B. Murphy, M.D., Chicago; A. McPhedran, M.D., Toronto; Thomas M. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballentyne, M.D., Edinburgh; John Harold, M.D., London; E. Landolt, M.D., Paris; Richard Kretz, M.D., Vienna. With Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipzig, Brussels and Carlsbad. Volume III. Thirteenth Series, 1903. Cloth. Pp. 303. Price, \$2. Philadelphia: J. B. Lippincott Co. 1903.

GENERAL PATHOLOGY, or the Science of the Causes, Nature and Course of the Processes of Disease. By Dr. Ernest Ziegler, Professor of Pathological Anatomy and of General Pathology in the University of Freiburg, Freiburg, Germany. Translated from the Tenth Revised German Edition (Gustav Fischer, Jena, 1901) and Edited by Alfred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathological Laboratory in the University of Michigan, Ann Arbor, Mich. Profusely Illustrated. Cloth. Pp. 760. Price, \$5. New York: Wm. Wood & Co. 1903.

TEXT-BOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College, and William M. Sweet, M.D., Demonstrator of Ophthalmology, Jefferson Medical College. With Chapters by Drs. Christian R. Holmes, Casey A. Wood and Wendell Reber. With 256 Illustrations, including Colored Plates. Cloth. Pp. 532. Price, \$4 net. Philadelphia: P. Blakiston's Son & Co. 1903.

AROMATICI E NERVINI. Nell'Alimentazione. I Condimenti. L'alcool (Vino, Birra, Liquori, Rosoli, ecc.); Il Caffè; Il Thé; Il Guarana; La Noce di Kola, ecc. Sull'Uso Del Tabacco da Fuma e da Fluto. By Dott. Adriano Valentini, Dell'Istituto Farmacologia Della R. Università di Pavia. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1904.

INTRODUCTION TO THE STUDY OF MALARIAL DISEASES. By Dr. Reinhold Ruge of the Imperial German Navy. Translated by P. Edgar, M.B., C. M. Edin., District Surgeon; Teluk Anson, F.M.S., and M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. Cloth. Pp. 137. Price, \$2.75. London and New York: Rebman, Ltd. 1903.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. Designed for the Use of Students. By James Magoffin French, M.D., Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Illustrated by 10 Full-page Plates and 50 Wood Engravings. Cloth. Pp. 780. Price, \$4 net. New York: Wm. Wood & Co. 1903.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in Cornell University Medical College. With 1,221 Illustrations, Many in Colors. Cloth. Pp. 111. Price, \$6. Philadelphia: P. Blakiston's Son & Co. 1903.

LA NEVRASTENIA. Con proemio del Prof. Clodomiro Bonfigli, Direttore del Manicomio di Roma. By Dott. Luigi Cappelletti, Vice-Direttore del Manicomio Provinciale di Ferrara. Milano: Ulrico Hoepli. 1904.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending Saturday, Oct. 24, 1903:

Brown, Orville G., first lieutenant and asst.-surgeon, is relieved from duty at Fort Monroe and directed to proceed to Washington, D. C., and report at the Army General Hospital, Washington Barracks, for assignment to duty until November 3, on which date he will be relieved, to enable him to report at the Army Medical School.

Crabtree, George H., first lieutenant and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Columbus for duty.

Crampton, Louis W., lieutenant-colonel and D. S. G., is granted leave of absence for thirteen days from about November 1.

Ewing, Charles B., major and surgeon, will proceed to Columbus Barracks for duty, relieving Major Guy L. Edle, surgeon. Major Edle will proceed to San Francisco and report for transportation to Manila, P. I., for assignment to duty.

Edle, Guy L., major and surgeon, is granted leave of absence for three months.

Gandy, Charles M., major, is granted leave of absence for one month.

Gilchrist, Harry L., first lieutenant and asst.-surgeon, now on duty with maneuver division at West Point, Ky., will proceed to Fort Riley and report to Major-General John C. Bates for duty during the maneuvers in the vicinity of that post, and, on the conclusion of the maneuvers, will return to Fort Screven.

Gaudy, Charles M., major and surgeon, now in San Francisco, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Wayne for duty.

Harris, Jesse R., first lieutenant and asst.-surgeon, is relieved from duty at Fort Myer, to take effect about November 20, and will report to the commanding officer of Second Cavalry for duty to accompany that regiment to Manila, P. I., for duty.

Hartsack, Frederick M., first lieutenant and asst.-surgeon, will report to Lieutenant-Col. Henry S. Kilbourne, D. S. G., president of the examining board at the Presidio, for examination for advancement.

Jones, John F., contract surgeon, is relieved from further duty at Fort Schuyler, and will proceed to Fort Totten for duty.

Lamson, Theodore, first lieutenant and asst.-surgeon (recently appointed), will proceed from Auburndale, Mass., to Fort Myer for duty until November 3, on which date he will be relieved from duty at that station and will report at the Army Medical School for a course of instruction.

Ludington, Paul H., contract surgeon, is relieved from further duty at Omaha, and will proceed to Eagle Pass, Texas, for duty, relieving First Lieut. Park Howell.

Mansfield, Elmer B., contract surgeon, is granted an extension of leave to include November 30.

Murray, Alexander, first lieutenant and asst.-surgeon, now in Washington, D. C., on leave of absence, will proceed to Fort Crook and report, not later than October 16, to the commanding officer Twenty-second Infantry for temporary duty, to accompany that regiment to Manila, P. I.

Niedman, William F. de, contract surgeon, is granted an extension of twenty days' leave.

Polhemus, Adrian S., major and surgeon, having reported his arrival at San Francisco, will proceed to Fort Crook for duty, relieving First Lieut. Charles E. Marrow, asst.-surgeon. Lieut. Marrow will proceed to Fort Sheridan for duty.

Rafferty, Ogden, major and surgeon, is relieved from duty as medical superintendent of the Army Transport Service at San Francisco and as attending surgeon in that city, and will proceed to Fort Monroe for duty, to relieve Major Richard W. Johnson, surgeon. Major Johnson will proceed to Washington, D. C., and report to the surgeon-general of the Army for instructions and assignment to duty in connection with the Medical Department exhibit at the Louisiana Purchase Exposition. The chief surgeon, Department of California, will, in addition to his present duties, perform the duty of medical superintendent of the Army Transport Service in San Francisco.

Richardson, George H., first lieutenant and asst.-surgeon, is granted leave of absence for one month and ten days. The resignation of the above has been accepted, to take effect Jan. 1, 1904.

Shepherd, John M., contract surgeon, is granted an extension of leave of absence for twenty-five days.

Shaw, Henry A., major and surgeon, is relieved from duty at the U. S. General Hospital, Washington Barracks, November 1, and will proceed to Fort Adams for duty.

Truby, Willard F., first lieutenant and asst.-surgeon, is relieved from duty at Fort Ethan Allen, and will proceed to Fort Preble for duty, relieving Major Charles B. Ewing.

Watkins, Victor E., contract surgeon, is relieved from duty in the Department of the Colorado and will proceed from Fort Huachuca to Eagle Pass, Texas, for duty, to relieve First Lieut. Park Howell, asst.-surgeon.

The board of officers appointed by orders of May 4 to consider certain matters pertaining to the Hospital Corps of three Army will, as early as practicable after the termination of the maneuvers at Fort Riley, reassemble at Fort Sam Houston to complete its work, under instructions to be communicated to it by the surgeon-general of the Army. Captains Francis A. Winter and Frederick P. Reynolds, asst.-surgeons, will, on the conclusion of the maneuvers

at Fort Riley, proceed to Fort Sam Houston for this purpose, and, on the completion of the work of the board, will return to their respective stations.

The following named assistant surgeons are relieved from duty at the posts designated, and will repair to Washington, D. C., and report, November 3, at the Army Medical Museum Building, to Col. Charles L. Helzman, A. S. G., president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Henry S. Kierstedt, Fort Riley; Jay R. Shook, Fort Myer; Henry E. Noble, Fort Sheridan; James W. Van Dusen, Columbus Barracks; Park Howell, Eagle Pass; Reuben B. Miller, San Francisco; James I. Mabey, Presidio; Percy L. Jones, Fort Rodman; Fred W. Palmer, Jefferson Barracks; Edward B. Vedder, Fort Columbus; Henry F. Pipes, Fort Totten; Charles L. Foster, Fort Myer; John R. Besley, Fort McPherson; Robert C. Loving, Fort Leavenworth; Chester J. Stedman, Fort Adams; Orville G. Brown, Fort Monroe; George F. Juenenano, Fort Columbus; Joseph F. Siler, Fort McPherson; Arthur M. Whaley, Fort Sheridan.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Oct. 24, 1903:

P. A. Surgeon B. L. Wright, commissioned a passed assistant surgeon from March 3, 1903.
Asst.-Surgeons F. M. Bogan, J. H. Payne, Jr., and J. J. Snyder, commissioned passed assistant surgeons from June 7, 1903.
Drs. J. Miller, Jr., E. C. Taylor, F. E. Campbell, J. E. Gill and I. S. K. Reeves, appointed assistant surgeons from Oct. 12, 1903.
Asst.-Surgeon W. S. Pugh, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.
Pharmacist J. Cowan, retired from active service, Oct. 10, 1903, under the provision of Section 1453, R. S.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended Oct. 22, 1903:

Surgeon Preston H. Ballhache, detailed to represent the service at the meeting of the American Public Health Association at Washington, D. C., October 26.

Surgeon D. A. Carmichael, granted leave of absence for thirty days from October 16.

Surgeon F. C. Killoch, granted leave of absence for three days.
Surgeon J. H. White, to proceed to Gulf Quarantine Station and assume temporary charge.

Surgeon P. M. Carrington, granted two days' leave of absence from October 15, under paragraph 189 of the Regulations.

Surgeon G. M. Magruder, granted extension of leave of absence, on account of sickness, for two weeks from October 7.

P. A. Surgeon C. P. Wertenbaker, to proceed to Beaumont and Houston, Texas, for special temporary duty, October 2. To proceed to El Paso, Texas, for special temporary duty.

P. A. Surgeon J. C. Perry, to proceed to Charlestown, W. Va., for special temporary duty.

P. A. Surgeon B. C. Brown, granted leave of absence for one day, October 18.

P. A. Surgeon J. A. Nydegger, Bureau letter of September 4, granting him leave of absence for one month from September 13, amended so that said leave shall be for one month from September 23. Granted leave of absence for ten days, on account of sickness, from September 13.

P. A. Surgeon H. S. Mathewson, department letter of September 23, granting him leave of absence for forty-five days from September 22, amended so that said leave shall be for forty-five days from October 3.

P. A. Surgeon S. B. Grubbs, granted leave of absence for five days.

P. A. Surgeon L. L. Lumsden, to proceed to Beaumont, Texas, for special temporary duty, October 2. To proceed to Eagle Pass, Texas, for special temporary duty, October 5. To proceed to El Paso, Texas, and assume temporary charge of the station, October 13.

P. A. Surgeon J. F. Anderson, to proceed to Baltimore for special temporary duty, October 1.

P. A. Surgeon L. D. Fricks, granted leave of absence for one month from November 1.

Asst.-Surgeon T. F. Richardson, to proceed to San Antonio, Texas, for special temporary duty, October 21.

Asst.-Surgeon F. W. King, detailed as inspector of unserviceable property at Ponce, P. R.

Asst.-Surgeon Edward Francis, to proceed to the City of Mexico, Mexico, for special temporary duty, October 6.

Asst.-Surgeon L. P. H. Bahrenburg, granted leave of absence for seven days from October 14 under paragraph 191 of the Regulations. Granted extension of leave of absence for seven days from October 22.

A. A. Surgeon C. B. Ford, granted leave of absence for three days from October 24.

A. A. Surgeon B. W. Goldsborough, Department letter of September 10 granting him leave of absence for three weeks from September 10, amended so that said leave shall be for three weeks from September 22.

A. A. Surgeon J. M. Jackson, granted leave of absence for thirty days from October 5.

A. A. Surgeon H. C. Sibree, granted leave of absence for six days from October 6.

A. A. Surgeon J. G. Stanton, granted leave of absence for thirty days from October 10.

Pharmacist F. L. Brown, to proceed to St. Louis and report to medical officer in command for temporary duty, October 10.

Pharmacist F. S. Goodman, to proceed to Laredo, Texas, and report to Surgeon G. M. Guiteras for special temporary duty as special disbursing agent, October 2.

Pharmacist S. W. Richardson, Department letter of September 15, granting him leave of absence for ten days, revoked. To proceed

to New York City and Providence, R. I., for special temporary duty, October 14.

Pharmacist C. H. Woods, to rejoin station at Chicago, October 10.

Pharmacist M. R. Mason, relieved from duty at Nome, Alaska, and directed to proceed to San Francisco and report to medical officer in command for duty, October 8.

PROMOTION.

G. A. Morris, pharmacist of the third class, promoted to be pharmacist of the second class, effective September 3.

Charles Maples Steger, recommissioned as assistant surgeon in the Public Health and Marine-Hospital Service to correct original commission, effective September 16.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 23, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Oct. 4-10, 1 case.
Colorado: Denver, Aug. 29-Sept. 26, 4 cases.
Florida: Jacksonville, Oct. 11-17, 1 case.
Illinois: Chicago, Oct. 11-17, 3 cases; Danville, Oct. 11-17, 1 case.
Louisiana: New Orleans, Oct. 11-17, 2 cases, imported.
Maryland: Baltimore, Oct. 11-17, 1 case.
Mississippi: Natchez, Oct. 12-19, 1 case.
Missouri: St. Louis, Oct. 3-10, 2 cases.
New Hampshire: Manchester, Oct. 11-17, 3 cases.
New Jersey: Camden, Oct. 11-17, 1 case.
Ohio: Cincinnati, Oct. 9-16, 2 cases; Cleveland, Oct. 11-17, 1 case.
Pennsylvania: Altoona, Oct. 11-17, 1 case; Johnstown, Oct. 11-17, 14 cases; Philadelphia, Oct. 11-17, 54 cases, 4 deaths; Pittsburg, Sept. 12-Oct. 17, 279 cases, 60 deaths, 7 cases imported.
South Carolina: Charleston, Oct. 11-17, 1 case, 1 death.
West Virginia: Jefferson County, Oct. 1-15, 14 cases; Wheeling, July 1-Sept. 30, 4 cases, 2 deaths.
Wisconsin: Milwaukee, Oct. 11-17, 9 cases.

SMALLPOX—INSULAR.

Philippine Islands: Cebu, Aug. 1-31, 8 cases, 4 deaths; Manila, Aug. 30-Sept. 12, 3 deaths.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 16-Sept. 15, 23 deaths; Rio de Janeiro, Sept. 14-27, 109 cases, 40 deaths.
Chile: Antofagasta, Aug. 25-31, 9 deaths.
Colombia: Barranquilla, Sept. 28-Oct. 4, 2 deaths.
Formosa: Aug. 1-31, 1 case.
Great Britain: Birmingham, Sept. 27-Oct. 3, 9 cases; Bristol, Sept. 27-Oct. 3, 1 case; Glasgow, Oct. 2-9, 1 case; Leeds, Oct. 4-10, 4 cases; Liverpool, Sept. 27-Oct. 3, 8 cases; London, Sept. 27-Oct. 3, 1 case; Manchester, Sept. 27-Oct. 3, 2 cases; Newcastle-on-Tyne, Sept. 27-Oct. 3, 5 cases, 1 death.
Malta: Sept. 20-26, 6 cases.
Mexico: City of Mexico, Sept. 28-Oct. 11, 5 cases, 4 deaths; Merida, Oct. 11, 1 case.
Russia: Odessa, Sept. 27-Oct. 3, 1 death; St. Petersburg, Sept. 20-26, 19 cases, 2 deaths; Warsaw, Aug. 23-Sept. 12, 7 deaths.
Spain: Barcelona, Sept. 27-Oct. 3, 4 deaths.
Turkey: Constantinople, Sept. 28-Oct. 4, 3 deaths; Smyrna, Sept. 28-Oct. 4, 77 deaths.
Venezuela: Yaritagua, Sept. 23, prevalent.

YELLOW FEVER—UNITED STATES.

Texas: Connell, Oct. 20, 1 case; Castroville, Oct. 21, 1 case; Hondo, Oct. 19, 1 case; Laredo, Oct. 14-21, 98 cases, 7 deaths; San Antonio, to Oct. 21, 13 cases, 3 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Sept. 14-27, 5 cases, 3 deaths.
Mexico: City of Mexico, Sept. 28-Oct. 4, 1 case, 1 death; Merida, Oct. 4, 14 cases; Nuevo Laredo, Oct. 13-21, 14 cases, 2 deaths; Progreso, Oct. 4-11, 2 cases; Tampico, Sept. 30-Oct. 10, 6 deaths; Vera Cruz, Oct. 3-10, 38 cases, 11 deaths.
Venezuela: Puerto Cabello, Sept. 20-26, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 30-Sept. 12, 94 cases, 76 deaths; provinces, Aug. 30-Sept. 12, 1,614 cases, 1,394 deaths.

CHOLERA—FOREIGN.

China: Hankow, Sept. 12-19, 1 case, 1 death; Hongkong, Sept. 5, 1 death; Shanghai, Oct. 12-19, 21 deaths; Tientsin, Sept. 12-19, 3 cases, 1 death.
India: Calcutta, Sept. 6-12, 4 deaths; Madras, Sept. 6-12, 3 deaths.
Straits Settlements: Singapore, Aug. 29-Sept. 5, 11 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 7, 1 case, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Cebu, Aug. 19-Sept. 12, 6 cases, 3 deaths; Manila, Aug. 30-Sept. 12, 3 cases, 3 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Sept. 14-27, 62 cases, 24 deaths.
Chile: Iquique, Aug. 28-Sept. 11, 9 cases, 5 deaths.
China: Newchwang, Sept. 12-19, 73 cases, 62 deaths.
Egypt: Alexandria, Sept. 12-18, 8 cases, 4 deaths; Damietta, Sept. 12-19, 1 case, 1 death.
Formosa: June 1-Aug. 31, 164 cases, 142 deaths.
India: Calcutta, Sept. 6-12, 13 deaths.
Italy: Licata, Sept. 13-20, 1 case, 1 death.
In the report to the journals for September 10, 11 cases of smallpox were accredited to Ogden, Utah, when there should have been only 1.

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Original Articles.

RELATION OF THE PUBLIC SCHOOL TO THE SEMINARY AND COLLEGE AS TO PSYCHOSES.*

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Professor of Nervous and Mental Diseases in the Medico Chirurgical
College.

PHILADELPHIA.

This topic is an important one to the educator and to the parent or guardian of the growing youth of our fair land, America, which claims so justly to be a leader in earthly pursuits. That we are going a little too rapidly toward progression of the mind in these almost too strenuous days of advancement is pretty clear to the thinker or man of larger experience. The result of "wear and tear" on the nervous system must be remembered to be much greater in youths from 14 to 18 years, i. e., during the development of adolescence with its wonderful attendant physiologic, physical and psychic readjustment of the organization. The paper written on this subject must not include as a fundamental basis for study the hardy westerners' children of the plains, nor the country school boy who is forced to healthy physical exercise in his trudging along the country roads, perhaps knee deep in mud or snow; but the overwrought child of the cities. These latter are the object of our attack in the endeavor to retain for them a full component of nervous health—"For with health departing all else flows." The vast majority of youths are educated in the cities where the comforts of home become almost too seductive in many instances, and the precocious boy may entirely eschew physical exertion in his early endeavor toward mental culture. We shall try to speak, therefore, for this vast majority, purposely leaving out of the consideration study of the extremes, i. e., the robust individual under more normal mental and physical surroundings and the extremely delicate child, on the other hand; also the more distinctly neurotic type. It would not be fair in such a discussion to-day to include any of these classes. It is after all a most difficult subject you have selected for discussion.

It has been my experience in observing the average American boy or girl who passes from the city grammar school to high school and finally to the academy or college that there is a wide variance in the methods of instruction, brought about largely in many instances by the idiosyncrasy, say, of a school board or board of trustees, no doubt due to their peculiar ideas of and efforts to teach the student by some special method which

seems to the said bodies recited to be the most productive of best results in educatory lines. Of course, this *modus operandi* is carried out in detail by the many teachers who are instructed in the same methods. Thus the widespread good or ill that may result! In these days of rapid advance, we repeat, there is apt to be too much stress laid on particular methods of instruction, which is the old story of specialism becoming lopsided and too pedantic. Of course, the greatest trouble lies in the fact that growing youths are often put to tasks which their brains can never compass; and a great many times psychoses in children and early adult life can be laid at the feet of the general practitioner who did not prove the wise guard he should be through advisory measures to parents, where a child is becoming nervous from misdirected instruction and overwork of the nervous system. The medical profession must, therefore, be awakened more keenly to its ultimate duties to the civic throng if highest common-sense methods of instruction are ever to prevail toward training the individual to be the most useful member of society.

The average child, I am sure, is forced too much at his work even in grammar schools among public institutions; and, from the neurologist's standpoint, I am convinced that such children in the cities would do better to have one session in school than be compelled to rush to a midday meal often of indifferent quality, then to go back again within an hour to recitation, which necessarily requires the freest circulation in that important organ, the brain, to the great detriment of digestion which is, of course, ill carried on under such abnormal circumstances. One-half of the general aches and pains, including headaches, are due to disturbance of metabolism from these various causes in which correction of the eyes by refraction can only in part relieve. Better be that the child have superabundance of fresh air and physical exercise than a doubtful mental advancement, as it is when associated with a nervous, disabled constitution. As remedial measures, I could especially hope that in the high schools of the country at least this régime might be carried out; or a second session, if held, be devoted to classes in natural history, or probably to modified physical gymnastics. As to this latter, I wish to sound a word of caution, since the zealous physical instructors in all educational institutions have, in my experience, been led through too narrow specialism into the error again of overwork of muscles, which the physiologist knows will weaken or finally exhaust the central nervous system; if it does not, indeed, as in some instances I know very well of, produce physical disability such as a dilated or irritable heart that is much worse than asthenia, the result of primary mental exhaustion, and more difficult to rightly interpret or cure.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

We believe that there is less of overwork (and, therefore, less hysteria, neurasthenia, accompanying melancholias, delusional insanities, particularly in the class of which we speak) in academies and preparatory schools than there is in the high schools, or even in the college, the place of advanced training, to which we have referred above; although the danger is patent enough in all educational institutions. This disproportion of wear and tear is due to the fact that the academy and preparatory school are ministered over by those who have not so much at heart competition in class work for their institutions; and that many of them are in suburban districts, where the youth from the cities are inspired by the open air and pastoral surroundings, as well as invigorated by the same natural exercises thus invitingly placed before them. It is much more difficult, as I can cite cases to support, for the average student to pass from the high school to college than for the academically trained boy or girl to take up lines of instruction in the college. And this is the result of overwrought nervous systems by the greater urging to work with too little play, which will frequently "make Jack a dull boy" indeed; and sometimes a neuropathic product, a hysteric, or a case of hebephrenia, or some other form of mental alienation.

The object of writing this paper has been not to give you intricate details of what subjects are pushed too rapidly on the growing youth, who has so many demands on his time, but the endeavor has been made to enforce what I feel to be a certain truth from observation through practicing neurology; i. e., that students of the United States generally (particularly those who are slightly below par physically and, in consequence, of lower nerve tone) are much overwrought. The essential point of this contribution, therefore, that I wish to impress is that we, as practitioners of medicine, desiring to keep the community well of all ailments, must assume greater responsibility in civic affairs if for no other reason than to conserve the public health—the excuse and reason for our existence. If the physician will (knowing as he does well enough these facts of overwork of children, the cause of hysteria, melancholia and the more frank insanities at times) deign to become a missionary to the good cause, in the only way that can be of avail for right methods, he will join with the intelligent educators and interested people in the community in which he resides, volunteering his opinion through public lectures before civic clubs and the like, which are doing so much universal good and for which credit must be given to intelligent womanhood. As long as the physician withholds his active influence in these matters, believing he has no legitimate place outside of prescribing, so long will a large burden of the blame for existing conditions be laid at his feet.

I will not detain you with more than these remarks, feeling that in them, from my standpoint at least, the germ of the matter has been recognized. We shall hope that in the discussion ways and means will be suggested by those more competent; and that the result of the symposium will make for proper correction of present-day methods of education of youth.

Habitual Epistaxis.—In habitual epistaxis, without regard to the cause, the frequency of the attacks, or their severity, Woodward says ammonium carbonate is an absolute specific. Two grains every ten minutes will stop the flow quickly during the attack. To correct the tendency and overcome the habit, 2 grains should be given from three to six times each day.—*Medical Summary.*

BEST METHODS OF COUNTERACTING PSYCHOSES DUE TO THE STRAIN AND STRESS INCIDENT TO OUR PUBLIC SCHOOL METHODS.*

WILLIAM JAMES HERDMAN, M.D., LL.D.

ANN ARBOR, MICH.

A matter so important as the education and development of children calls for the highest intelligence and wisdom of mankind. It is so vital to the welfare of the race that no one profession can arrogate to itself the right of exclusive control or dictation as to the methods to be employed. The object sought should have the benefit of the combined wisdom and experience of all professions which have anything of value to contribute from their discoveries that has a bearing on the subject.

The members of the medical profession justly and rightly consider that on them rests the responsibility of searching out the causes of diseases of whatever sort, mental as well as physical, and of directing the attention of the public to the appropriate means for their prevention, and it is a healthful sign of vigorous activity and normal advancement of the work of that profession when its members are found interesting themselves in tracing causes to their fountain head, where effective healing or preventive measures are alone possible, and not waiting until such time as the damage is done and curative means are unavailing, and energy and enthusiasm are expended hopelessly. This is commendable zeal on the part of the members of the medical profession and unselfish devotion to duty, and the thoughtful person can not fail to recognize in it the exercise of the highest function of the healing art—the prevention of all abnormality.

But in bringing our medical experience and methods of observation to bear on questions which do not lie directly or wholly within their sphere, but rightly belong to a profession whose members must be credited with equal intelligence and quite as earnest devotion to their peculiar work, we must guard against overstepping the bounds of legitimate criticism and keep strictly within the limits where our training and experience justify us in speaking with authority. The very importance of the subject of education and its methods demands that we apply to it our most exact methods of research and see to it that our conclusions are drawn from unassailable premises. In considering, therefore, the special subject at present under discussion it is for us to determine first what, if any, are "the psychoses which result from the strain and stress of public school methods."

As far as I have been able to discover from the sources of information accessible by me, and in the time at my disposal since this topic was assigned to me, no reliable data are extant bearing directly on the subject. Eight years ago Dr. Alfred Spitzner of Leipsic declared in a carefully prepared and learned article: "As far as I know, there is no such thing as a comprehensive, officially organized investigation and compilation of facts referring to the existence and cause of nervousness among school children." And still more recently (Dec. 16, 1901) Dr. Edward M. Hartwell, secretary of the Boston Statistics Department, said in a paper read before the Boston Society for Medical Improvement: "So far as I can learn, the only states in which thorough-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

going, scientific investigations of the effects of school life on the school population have been made are Sweden and Denmark." In these countries commissioners were appointed ten or twelve years ago who made investigations and reports abounding in most instructive statistical tables and valuable information as to the results of certain educational methods, but these reports contained little that had any bearing on the subject of this discussion.

Within the past year a special committee has been appointed by the British Association for the Advancement of Science "to consider the condition of health essential to carry on the work of instruction in schools," and this committee has undertaken to collect information as follows:

1. Records of original observations on the periods of day appropriate for different studies, the length of lessons, and the period of study suitable for children of different ages.

2. On anthropometric forms in use in various schools with a view to preparing a typical form for general use.

3. On anthropometric and physiologic observations recorded in different schools for a series of years on the same children.

4. Recorded investigations into the causes of defective eyesight in school children, and a definition of the conditions necessary for preserving the sight.

5. An inquiry into the practical knowledge of hygiene possessed by school teachers.

It would seem from the statements of these persons who are in a position to know what has been done in this line of investigation, and from what is being attempted, but not yet accomplished, in the way of gathering facts by one of the ablest bodies of scientific men in existence, that while the need of exact information on this subject is beginning to be very generally felt, yet it is an acknowledgment that, so far, no exact information is at hand such as is necessary to locate causes and serve as a basis to institute reforms, if any are needed.

Public school methods can not be justly charged with either the development or aggravation of psychoses in the children subjected to them until we can eliminate as causative factors: 1, Conditions that antedated the school period and its influences on the child, and, 2, such causes as may be operating on the child outside of school hours and school environment.

Assuming that psychoses can be demonstrated to exist among school children and that nervous affections increase in proportion to the time spent under school conditions, as is claimed by many, obviously the school methods can not justly be held responsible for the entire result when the causative factors entering into the problem are so many and so various. We must here, as in all attempts at exact analysis, devise some method by which each causative factor can be discovered and its relative value in effecting the result be properly estimated.

As to the fact of the existence of psychoses among school children sufficient reliable testimony is furnished us. While no systematic and authoritatively organized effort has been made to determine this in any quarter, sporadic attempts by medical men of unquestioned integrity and ability have been made in many places in recent years which have furnished evidence sufficient to show beyond all question that both physical and mental abnormalities exist among school children.

Among the physical defects to which attention has been more especially directed and careful investigations made by physicians are the abnormalities of the special senses, chiefly those of sight and hearing, since these are the main avenues by which the world of sense finds entrance to the world of mind. "All the raw material of thought comes through the senses. All the raw material acted on by memory, imagination, judgment, comparison and reasoning is gained through sense experiences." It is of primary importance, therefore, to a correct and symmetrical development of all the mental faculties that the sense mechanism furnished for the transmission of this raw material be in perfect working order, so that it may honestly deliver to the mind for its use every attribute which the world of things possesses which can through sense perception be apprehended.

Tests for the detection of defects in vision have reached such a degree of accuracy and are so convenient in application that they have afforded the most ready means of examining school children as to the integrity of sense perception. The relatively greater importance of this special sense as compared with others in the acquirement of accurate knowledge of external things likewise renders it well fitted to demonstrate the need of attention to these physical channels which furnish the pabulum for educational development. For while to none of the other senses has the same amount of attention been directed in these investigations, it is safe to assume that when the searchlight of scientific observation is brought to bear on them their integrity will be of no higher order than that which has been shown for the sense of sight. Dr. Wright,¹ health officer of New Haven, Conn., makes the statement that "it has been found by the examination of the eyes of many thousand children in the high schools of Europe that over 40 per cent. were nearsighted to a greater or less extent. It was also found that the defect increased from the primary to the higher grades not only in frequency but in degree."

Dr. Jane Kelly Sabine² of Boston gives as a result of observations made on 2,000 girls in schools and colleges of New England, among whom 30 per cent. were either wearing glasses or were ordered to have their eyes examined by a specialist, that there were 6 per cent. with defective hearing, 5 per cent. with weak lungs, 4 per cent. with heart trouble, 75 per cent. with menstrual troubles and 90 per cent. with leucorrhea.

Dr. G. B. Saunders of New Zealand,³ in an elaborate report of investigations made by him and others on the vision of school children, concludes: "It has been clearly established by the evidence set forth from these statistics that defective vision is induced during the whole period of school life and that children entering school with healthy eyes have developed faulty vision, and that the proportionate number of the scholars affected increases as we ascend in the classes and also in the grade of the school."

While I am disposed to question the assertion of Dr. Saunders that these children, or any number of them, had "healthy" eyes at the time they entered school, since no evidence was given that examination of these children on beginning school was made, yet the fact remains—and abundant testimony other than this I have

1. Boston Med. and Surg. Jour., March 27, 1902.

2. Paper before the Society for Medical Improvement, Dec. 16, 1901.

3. London Lancet, Jan. 11, 1902.

offered can be furnished in support of it—that the eyesight of from one-fourth to one-third of all school children is defective, and, moreover, such defect has in many instances been brought to the knowledge of both teacher and parent for the first time by these inspections instituted by physicians.

Whether or not the production of this large percentage of cases of impaired vision can in any measure be charged to school methods or defective school hygiene must, I think, for the present, be left an open question. It is for the present sufficient, perhaps, for us to know that such a large share of school children at an early age are handicapped by serious deficiencies in the mechanism of one of the most important senses through which knowledge is acquired, and that often such deficiencies remain unrecognized and uncorrected, as far as such correction is possible, by both parent and teacher.

Now, it is needless for me to recall the fact that eye-strain is one of the quickest and surest means for bringing about brain exhaustion and mental fatigue and that out of the fruitful soil of mental fatigue all manner of psychoneuroses spring up. What would appear, and in reality be, a very simple task to a child healthy in every organ, might in one with defective vision produce a strain and stress that would cause an unhealthy drain on the entire store of nerve energy and so result in disorder of normal function in certain of the more susceptible parts. It is not surprising, therefore, to find many children who are victims of visual defects unable to bear the strain of ordinary school requirements, without manifesting signs of neurasthenia, hysteria, or some form of mental or motor instability, or both, the fault lying in the vulnerability of the child and not in the school method. But investigation seems to show also that the constant demand made on the sense of sight by the confinement of school methods of instruction to the printed page as a source of information has resulted in a still further deterioration of this sense organ, as is seen from the greater degree of myopia, as well as the increase in relative frequency of this as of other visual defects, among pupils in the higher grades. If it can be shown that the healthy and normal eye is caused to deteriorate by excessive use or strain due to school requirements, and, further, that the same educational results could be attained by informing the mind through some other avenue of approach, as the ear, the touch or the muscular sense, we would then be justified in finding fault with the method which throws undue labor on an important organ, not only to its injury but to the injury of the organism as a whole. Therefore, no matter what the outcome is in the way of nervous or mental manifestations of an abnormal kind in school children with demonstrable physical defects, unless it can be shown that such physical defects and their consequent nervous disorders are either caused, or are unnecessarily aggravated, by the school methods employed, it must be assumed that the neuroses and psychoses accompanying them would have developed in spite of school methods or under any circumstance where the same demands would have been made on the organism with a view of securing the educational result desired.

There are conditions existing in many school rooms which are injurious to the eyesight aside from the prolonged and, perhaps, unnecessary confinement to the printed page. Dim or misdirected light, the distance of the pupil from the visual demonstration on the blackboard, defective ventilation and temperature of the room are causes which may contribute very considerably to

the strain produced not only on this sense alone but on the nervous system as a whole. But these are matters of school hygiene which, although they have an important bearing in causing the effects we are considering, do not properly enter into the plan of this discussion. It has been seen that the special sense strain is very generally recognized as a fruitful source of mental fatigue and consequently of the various psychoneuroses that accompany this state or stand as the evidences of it.

Next to this as a causative physical factor in bringing about a reduction of nerve energy in girls must be placed the disorders of menstruation and an unhealthy state of the generative organs. The very large percentage of menstrual troubles and of leucorrhea reported by Dr. Sabine as present in the 2,000 girls from whom her statistics were gathered, directs attention to a most significant fact. My experience for more than a quarter of a century in caring for and observing the health of a large number of college girls gives emphasis to this as a causative factor in the development of psychoneuroses among school girls. While the inflexibility of school requirements must act as one of the factors in maintaining and, perhaps, in creating this unhealthy physical state among our girls in some instances, yet we are well aware that there are many more potent causes such as unsuitable dress, social excesses, indiscretions in diet, neglect of sleep and of the bodily needs, contributing to the result to a much greater degree.

Could the teacher understand the nature and signs of the extra physical strain to which so large a per cent. of the female pupils are periodically subjected, and was she free to temper the demands of the curriculum to meet the condition, much injury would be avoided. But here again, as in the case of defective eyesight, the responsibility for the result produced on the nervous system must be shared by the parents, the guardians and the pupils themselves, and not charged wholly to the teacher's account or assumed to be due to a faulty school method.

There is another phase of this problem which is deserving of much more serious and systematic attention, both from the teacher and the physician, than it has hitherto received, and that is the natural evolution of the child mind and the stages at which certain capacities are most active and vigorous and capable of performing their function with the least friction and expenditure of nerve force.

It is here, in my opinion, that our pedagogic methods in this country are most open to just criticism, since the proper adjustment of studies, the proper period of the day for each and the length of time they should occupy, are questions which a scientific pedagogy should have long since settled beyond all controversy.

It ought not to require the physician to call the attention of the teacher to the fact that nature study, which engages sense perception, creates interest, attention and enthusiasm, naturally precedes, in a well-arranged curriculum, the relation of numbers and comparison of abstract attributes. In other words, that the acquisitions by the senses must lay a broad and deep foundation before the moral and reasoning faculties can properly evolve, and, moreover, that a child possesses avenues for sense perception other than those of sight and hearing, mainly those of touch and muscle sense, which have a value quite equal to either of the former in creating mental stability, though that value is supplementary and not substitutive.

It should long since have been established beyond all question by teachers that the acquisition of language is an early capacity of the child mind, the naming of things being only secondary to their apprehension by the senses, and that thoughts concerning things must have the language symbols as a necessary foundation for the expression of those thoughts or even of clear conceptions concerning them. When we look abroad from this point of view—of the natural evolution of the child mind—over the school methods that are in operation we find them still in a chaotic state, “without form and void.” No settled principles appear to have been evolved as to the natural order of studies after centuries of our best thought have been devoted to the solution of the problems of education.

And yet every observing teacher has had the evidence daily before her that a course of study must be in harmony with these processes of development in order to be successful.

More depends on the order of studies assigned than on the contents of the studies themselves. You have heard of the experiment made some years ago by four teachers in the city of Paris, in a school for boys (the Lycée). They asked permission of the Minister of Education that each of them might give to his 25 pupils the same studies prescribed in the required course, but in a different order, an order believed by them to accord with the natural development of a boy's mind rather than in the arbitrary order hitherto demanded. “These boys completed all the required studies in this natural order in three and a half years, instead of seven years, the time assigned for the completion of the course as regularly given. On examination, they were found to be equally proficient mentally, and above the average in physical development, as compared with those who had spent seven years in going over the same ground.”

This one striking illustration furnishes convincing proof that the study of the natural history of the child, the manner and order of its physical and mental unfolding, is an indispensable prerequisite to the right exercise of a teacher's functions.

Periods of study too prolonged and a disregard of the vital waves of alertness and acquisitive capacity, which are likewise faults that can now be justly charged to the account of the school methods in many places, and which operate in no small degree as mental irritants and mental worries would, by a better understanding of the immature stages of childhood, be corrected.

I can but sum up the thought I have attempted to present to you on this phase of my subject by quoting the words of Herbert Spencer: “What with perceptions unnaturally dulled by early thwartings and a coerced attention to books; what with the mental confusion produced by teaching subjects before they can be understood, and in each of them giving generalizations before the facts of which these are the generalizations; what with making the pupil a mere passive recipient of other's ideas and not leading him to be an active inquirer; and what with taxing the mind to excess, there are few minds so efficient as they might be.”

In the light of these considerations, it is evident that the end, which we, as physicians, seek—the arrest of such causes as lead to the mental and nerve irritability and physical weakness which we observe in school children—must have a plan of correction sufficiently comprehensive.

We need to know more of the child before it is subjected to public school conditions and more of the in-

fluences that attend it outside of school hours. Only by having such knowledge can we properly estimate the effects of school conditions for good or evil.

In attempting to formulate a plan for the removal of the physical and mental defects we have observed, I would suggest:

1. A careful medical inspection of school children at the beginning of their school life and at stated intervals thereafter, covering both their physical and mental capacities.

2. All teachers should be well instructed in the physiology and psychology of the child and in the principles of school hygiene.

3. School buildings and their environments should be made to comply with all the requirements of modern school hygiene, as to light, pure air, temperature, seating, decorations, play ground facilities, etc.

4. The curriculum should be so flexible as to allow more opportunity for the exercise of the individual judgment of the teacher, as to the best method to adopt for each child in order to secure for it the greatest educational value, and the curriculum should include facilities for appealing to the mental faculties along every sensory pathway, among which facilities I would mention nature study, rational kindergarten, manual training and physical exercise.

5. The number of pupils assigned to any one teacher should be only such as she can care for to the best advantage. Time should be allowed the teacher for a careful study of the physical and mental needs of each pupil.

6. A closer relationship between the parent and teacher, with a view of securing the end sought—the highest and most useful development of the child.

7. The removal, as far as possible, of all conditions within or without the school room that interfere with the accomplishment of this purpose.

DISCUSSION

ON THE PAPERS OF DRs. PEARCE AND HERDMAN.

DR. HAROLD N. MOYER, Chicago—Before this Section, three years ago, I presented a paper on the psychoses of chorea. In 8 out of 10 cases there was a psychosis—not that the children were demented or incoherent, but there was a distinct alteration in the mental condition of the child during the continuance of the chorea. What is true of chorea is true of many children's diseases, both of the nervous system and of the nutritional disorders which are so common in infancy. The psychoses of children is a much-neglected subject, meaning by this the minor, less accentuated deviations from the normal, and not what is commonly termed insanity. The psychoses of childhood are not incidental to any great extent to school strain or to any strain, but they are due to the developmental period, *per se*, primary defects in the nutritional processes in early life and a bad heredity.

Is strain a bad thing? Is the use of an organ, whether it be the brain, or the heart, or the lungs, or the stomach, a bad thing for that organ? I am distinctly of the opinion that it is not. I believe that the use of organs strengthens them, and that the only way organs are strengthened is by use; but we must stop short of strain. Is the early breakdown of the athlete due to strain? Is it not due to the fact that there is a maladjustment of certain organs? He has developed organs which are no longer needed, and when he passes the age of youth, those organs tend to atrophy and decay when the strain is no longer put on them. After all, we get down to the nutritional factor, which teaches that we should put such an amount of work on an organ as it will stand, and lead to its development, and that will not carry it beyond a point that will be needed afterward. That is an underlying

principle of pedagogy. The supplemental factors—the defects in the nose, throat, eyes, etc, with which the child may be handicapped—are the individual peculiarities of cases and must be eliminated. The common factor is nutrition, the strengthening of the organs by proper use, to secure a symmetrical development. The development of the nervous system at the expense of the muscular and vegetative systems is a fault of modern methods of education, but it is being rapidly corrected. We must not fall into the opposite extreme and neglect the nervous system, remembering that the use of an organ strengthens and develops it.

DR. JOHN PUNTON, Kansas City—The medical profession should take a more active part in the regulation of the methods of public school education. There is great need of a consensus of medical opinion, but nothing of a tangible character has been done. About ten years ago I suggested that every large city should maintain a board of medical inspectors. A year or two later the first board of this kind was appointed in Boston, and later other cities followed suit. In spite of that there are many cities that have failed to give even so much recognition to the subject. Three or four years ago I read a paper before the American Neurological Association, desiring to get them interested, but unfortunately nothing was done. It has been proved by the medical school inspectors that anthropometric measurements show a physical basis for precocity on one hand and for mental dulness on the other. If we could introduce this system in all schools it seems to me that hysteria and other neuroses could, in many cases, be prevented. Along those lines the present system of medical inspection is lame. Certain definite standards of weights and measures would be of vast importance. It is now usually taken for granted that like age implies like mental capacity, which is a wrong criterion, because mental development occurs in different degrees at different ages in different individuals, and as the public schools deal with all classes of children this standard is very misleading. I do not think, however, that the public school methods are altogether to blame for the nervous diseases. The child's home life has much to do with it, and very often the parents are more to blame than the teachers. Very often the teachers are to blame independent of the methods which are enforced by the educational system of the city; for instance, when children have fallen behind in their studies the teacher will sometimes give private instruction, and parents are often very anxious to have her do so, because they do not wish their children to be put back or to fail of promotion. I think such a teacher deserves severe criticism. I also find that some teachers, to stimulate the best efforts, will offer prizes for those who stand highest in examinations. That is a wrong method; it puts a severe mental strain on all the children, whether they win the coveted prize or not. The defects among public school children can be classified into physical and mental. The former may give rise to very serious misunderstanding. Some physical defects pertain to the bony structure and sometimes militate against nutritional growth. We must set a definite standard by which we can separate the normal child from the abnormal. There are differences of degree and kind from the normal child up to the precocious and down to the worst dullard, and physically we also have all types. All such defects have some influence on the development of the child, and it seems to me that the medical aspect of school education must be worked out along this line by the medical profession. Now that this Section has taken up the subject, I hope that something will be done in a tangible way, so that the public can get a consensus of medical opinion.

DR. J. H. McBRIDE, Pasadena, Cal.—Some years ago Dr. Porter, now professor of physiology in Harvard, made some very interesting investigations into the health of 35,000, I think, school children of St. Louis. He discussed one element of the problem under "The Physical Basis of Precocity and Dulness in Relation to Sex and Age." He found that the children who were taller and heavier were the brighter children; that the dull children were shorter and weighed less. Dr. Byers, a surgeon in the Navy and formerly at the Annapolis Academy, found that by special training he could make stu-

dents grow taller than the average. He claimed to be able to add an inch to the height of a person between the years of 16 and 20. It is an important fact in the economy of child life that the physical development is directly related to the mental development. Other things being equal, the man who has well-drilled muscles and a thoroughly developed body will be a smarter man because of it. Much of the so-called overstudy of school children and the overwork of men is not properly overwork or overstudy. It is due to unhygienic living. If people would live as they ought, eat, sleep and exercise wisely, there is little danger of harm from any amount of work they can do. The worst fault of our public schools is the lack of gymnasiums and manual training. We need both badly. We have forgotten the body in our fussy anxiety about the mind. President Jordan of Stanford University has informed me that the students there improve in health during their stay in college. The physical life of the students is carefully attended to.

DR. R. C. MOORE, Omaha—Little children of 5 years and even younger are sent to the kindergarten, where for hours they are confined to the house, placed under restraint and curbed in their childish plays. This is all wrong. We can go to the dumb animals and learn a good lesson in this regard. The cat in her spare time plays with her kittens; not so much to amuse as to develop them. The same is true of birds. Let the children spend their time out of doors; let them play in the mud until they reach the age of 7 or 8. Then they will become better scholars and make more rapid progress than those who enter the race at an earlier age. I think the municipality owes to every child a good, common school education, and there the responsibility ceases. The high-school system is top-heavy, and it is there, I believe, that the greatest injury is done to the students. They pass through the earlier grades, even through the seventh and eighth, without much trouble, but when it comes to the high school the forcing process begins, and the constant effort to keep up in their studies proves detrimental to many students.

DR. ALBERT E. STERNE, Indianapolis—One important factor that has been overlooked is that of overcrowding, both in our cities and in our schools. It has been claimed that myopia is a cause of mental strain, and *vice versa*, that mental strain causes the myopia. We are losing sight of the fact that the school period is the growing period, or the evolutionary period, both physical and mental, and to my mind certain psychologic or neurotic manifestations are associated with that period. Even the healthy child has certain fancies. The out-and-out psychoses are not common in childhood. None of us see many cases of adolescent insanity; but during this peculiar period erratic or even erotic manifestations are not uncommon.

DR. DANIEL R. BROWER, Chicago—I trust we will go from here prepared to work along the lines specified. I am sure that I have, during the past few years, seen twice as many cases of insanity among adolescents as I formerly saw. A few years ago this matter was brought forcibly to my attention. I had on my clientele the president of the Chicago Board of Education, who was himself an athlete; we had numerous conversations on this subject, and he and I evolved this system, which for a time was put in practice with considerable success: Between each recitation, ten minutes were allowed for rest and exercise, which consisted of light gymnastics or play. Subsequently, objection was made to the plan, and with political changes it was discontinued entirely.

DR. D. L. WILKINSON, Montevallo, Ala.—I will report briefly the results of my investigation during six years of more than 2,000 cases. A necessity for this work arose in my observation in 1898 that at least one girl in every twenty-five in the Alabama Girls' Industrial School was compelled to abandon her work on account of ill health—I may say here that the number of girls who are compelled to abandon college work varies from 4 to at least 50 per cent. I began work along original lines, devising a ledger for the purpose, in which I kept a complete family and personal history of every matriculate. In Ledger 2 I recorded the physical condition at the beginning and close of each session. The former

information was ascertained by my assistant, a young lady, and the latter by the physical culture instructress. The trouble with our educators is that they demand the work of maturity where maturity does not exist. The curriculum is inflexible; pupils are considered as massed entities, no longer as individuals. The teacher endeavors to accomplish a definite amount of work in a limited amount of time, and strives that each succeeding class shall accomplish more than the preceding. My investigations corroborate findings elsewhere, especially those of Dr. Jane Kelley Sabine, Boston. The average age of the girls I examined was 17; the average weight, 113 pounds; the average height, 5 feet 2.1 inches; 75 per cent. suffered from amenorrhea, menorrhoea or dysmenorrhoea; including leucorrhoea and ovarian neuralgia, 90 per cent. were sufferers; 75 per cent. suffered from tonsillitis; 20 per cent. from myopia, hypermetropia or astigmatism; 30 per cent. from constipation; 40 per cent. from headaches. One point Dr. Sabine brought out that the essayists have not touched on: Sixty per cent. of her 2,000 young ladies had to give up work from one to two days each month. My observations did not cover this point. Ten per cent. of our girls come to us with a direct consumptive heredity, i. e., one or both parents died from tuberculosis, or two or more near relatives; 33 1/3 per cent. come with a poor heredity, where one or both parents or two or more near relatives died from diseases which might be regarded as hereditary; five-sixths come with the history of one or more attacks of some severe acute trouble, such as lobar pneumonia, scarlet fever, diphtheria, chronic malarial poisoning, typhoid fever, etc. These points show the origin of troubles prior to college matriculation. I have fixed the average age of puberty in Alabama at the thirteenth to the fourteenth year, 102 girls more menstruating first at 13 than at 14. This would indicate most trouble in the educational system at or about the time when the girls are prepared for college. In the East, I believe that the severest strain is placed on young women before menstruation begins; in the South it is subsequent and therefore at a time when the bodily growth demands the blood of the body. The brain is approximately one-forty-fifth of the body weight, and demands practically one-seventh of the blood of the body. Forced education, therefore, at or subsequent to the time of puberty withdraws blood which is demanded by the growing uterus and adnexa, and results in an undeveloped uterus and an imperfect discharge of the uterine functions. This forced education, too, leads to flabby muscular development, nervous irritation and an increase in neurasthenia, chorea, hysteria, anemia, cardiopathies, and a total breakdown. Pupils in the school referred to work on an average, mentally, of twelve hours, but our school is better than many others, because every pupil is required to carry at least two industrial branches. Now, as to the remedy, educate the teachers to seeing the necessity of the pupils for more rest, interspersed with suitable exercise. Educate the pupils as to the importance of the subject, and in a few generations you will have the parents educated to the point that they will demand a rational plan of education for their children. In Alabama we hope soon to forward to all superintendents of schools and teachers in the state, through the State Board of Health, a circular calling attention to such defects as exist, and requesting the co-operation of the teaching profession in the removal of these difficulties. We are preparing to give special gymnastics in our school to those with developmental defects, and to limit their studies and regulate their habits. I propose to put a circular in each girl's hand, telling her what she may do to develop herself while in school, and what she should do if there is a tendency to any particular trouble. I call your attention to the work now being done in Boston, Chicago, Washington and elsewhere under many able men. I have a third article on this subject now in press, and will be glad to furnish a copy on application.

DR. WHARTON SINKLER, Philadelphia—In the majority of cases very little care is taken of children outside of school hours. The parents are usually occupied with their own affairs, and most of them are untrained in the proper bringing up of children, and so the latter have their own way most

of the time. In our large northern cities, during the winter months, the days are so short that the children can not spend many hours out of doors, and must remain in badly lighted, badly ventilated rooms. Any one who sees many of these children at the neurology clinics will find that their home life is anything but what it should be. They are permitted to drink tea and coffee, even to excess; they are overfed with sweets and their time is not profitably employed. We should bear in mind that fault rests not only with teachers but with parents.

DR. D. I. WOLFSTEIN, Cincinnati—There is no particular danger to the growing child as the result of overwork. We need no better illustration of that than the methods of training children in Germany. A graduate of the ordinary German gymnasium course at 16 has received as complete and strenuous an education as a student in his first or second year at Harvard. To enable a German student to complete his service in the army in one year he must pass an exceedingly difficult examination, and when he presents himself for this examination he can not be regarded as a victim of nervous debility. The reason for this is that the Germans are firm believers in combining intellectual work with physical training. In their numerous *Turn-Vereins* the education of the muscles keeps pace with the education of the mind in the schools. The average country boy learns quicker than the city boy and makes more rapid progress in his studies because he has had the advantage of muscular training and plenty of outdoor exercise.

DR. A. J. PRESSLEY, Cleveland, Ohio—There is one individual who has not been censured by any of the speakers, and who I believe is responsible for a great many of the drawbacks of our public school system: He is the superintendent. He has usually obtained his position through political preferment, and feels that he must do something for the school, which usually consists in making some addition to the curriculum. Instead of making the work of the children lighter, he usually adds to it with the idea that this will add to his popularity. Another objection to the public school system is that the rules are too inflexible and ironclad. Both of my children were deprived of the benefits of graduating from our high school because they were not strong enough to endure the required amount of work in the prescribed time. If they could have taken a year or two longer to have performed the same labor they could have accomplished it without harm to themselves.

I do not think eyestrain is as much the fault of the school room as it is of the environment. In the city the eye does not get the freedom that it does in the country; there are too many brick walls in the way, which prevent us from using our eyes as God intended them to be used. I do not know whether that theory is correct, but I believe it has much to do with the fact that wearing glasses is very common among city children and comparatively infrequent among children in the country. I do not know how a remedy could be offered for this.

DR. C. C. HERSMAN, Pittsburg, Pa.—If we all lived in the country the subject would probably not have arisen. Among savage races the survival of the fittest was the rule of life, but in civilized countries the weakling is taken care of and brought up. The appointment of medical school inspectors is a step in the right direction, but they usually owe their position to political influence and serve their masters rather than the public. The average kindergarten I regard as an abomination. Very young children are sent there to get them out of their parents' way, and the mental condition of the child is developed far ahead of the physical, if the child is inclined to be top-heavy. Such a method of training can only do injury. If I were the father of as many children as old Priam I would not send any of them to school before they were 7 or 8 years old. I have seen children who were not sent to school until they were 8 years old, and within three years they were up to and sometimes far in advance of those who had started at the age of 5 or 6.

DR. E. T. SHELLEY, Atchison, Kan.—A great deal of harm that is attributed to school life should rightly be laid to

faulty home life. Parents need education as much as teachers. One element of harm, especially in our smaller cities, is the music lesson fad. After returning from school, worn out and nervous, the girl must take her music lesson. After she has attained a certain degree of proficiency the ambitious music teacher has a public recital where the younger pupils, in a fright and nervous strain, fumble over the keyboard of a piano to the evident delight of foolish and fatuous parents. Another real evil is, I believe, the system of inelastic grading prevalent in nearly all city schools, where young children of greatly varying mental capacity and development are forced into that unyielding mold called a school grade. Country schools are much less prone to this evil, and the result is that it is the usual thing, in my very limited observation, to find country children, from 8 to 12 years of age, from a half year to a year ahead of town children in their school work, notwithstanding the shorter school term of the country school. At all events, on moving to town they are admitted into relatively higher grades than town children of the same age occupy. Is this due to the fact that they have escaped the stunting effects of an inelastic school curriculum?

DR. J. H. McBRIDE, Pasadena, Cal.—One of the worst features of our public schools is the forced inactivity of the pupils. It is not only injurious to health, but is absolutely deadening to the mind. There are two very interesting books on education that every physician and teacher should read. One is by Prof. William James, "Talks to Teachers on Psychology and Life Ideals." The other is by Prof. Hanford Henderson on "Education and the Larger Life." I wish a committee might be appointed to investigate the subject of the health of school children.

DR. H. T. PATRICK, Chicago—The average physician is shamefully neglectful of his duty in the instruction of parents and the guidance of children. He treats measles and other infantile ailments with enthusiasm and patience, or at least with submission, and has an insatiable appetite for fractures and operations, but when it comes to getting the child's parents into a corner and telling them what they must do and must not do, he puts on his hat instead and walks out of the house. He is not willing to risk the disfavor of his patients by telling them frankly what he thinks. The German system of mental and physical training is in some respects far superior to ours, but conditions of the two countries are not the same. I am convinced that in Germany they do not begin to live the strenuous life that we do, particularly as regards children and young people. The opportunities for advancement and attainment in this country are so great as to place a very tempting bait before every individual, and this has its influence on the education of children. Every young man who starts in business looks forward to becoming a Napoleon of finance, and every girl who gets into long dresses looks forward to being a brilliant figure in society or in whatever direction her ambition leads her. There is too little of the placid content that we see in Germany, and this has a great influence on the effects of our education. Charcot long ago said that children do not have neurasthenia, and this is true if the child is left to follow his or her inclinations. But children are not left alone; they are given a stiff curriculum in school and music lessons outside; they must take part in recitals; they must know something of French, German and Italian, paint a little and decorate china. They must do everything that their friends do, and do it all a little better. These accomplishments are not only tolerated, but even encouraged by the parents, and the teacher naturally tries to turn out the highest possible product. The greatest sin is committed by the medical man who neglects or purposely avoids his full duty in this matter.

DR. WILLIAM S. LINDSAY, Topeka—We should not attempt to correct all this by changing the present methods of the management of children. The overwork of the parents is shown in the condition of the children. I feel that we have something to do in looking after our own habits and method of living, in order that the coming generation may be better prepared for the strenuous conditions with which they will have to contend.

DR. F. W. LANGDON, Cincinnati—We once had in Cincinnati an old physician, somewhat eccentric, but very successful in his profession, and possessing good, sound common sense. His two daughters, at least one of whom was inclined to be neurotic, on returning from their select private school one day, informed their father that they were to have several new studies added to their curriculum. As they were already overburdened in this respect, the physician called on the preceptress and told her rather forcibly what he thought about it. "Well," she said, "you desire your daughter to have an education?" "Yes, Madame," he responded. "But I also desire her to have some legs and lungs and stomach." Every psychosis is preceded by a neurosis, and we should not wait for a psychosis to develop or threaten before we adopt our preventive measures. The average new school superintendent, who is brought to the city or town to take charge of the schools, thinks he must add something to the curriculum. He never thinks of taking anything off. The ordinary school curriculum is top-heavy and too extensive and as a consequence the hours of study are too long. There is too much memorizing and not enough teaching. The student is not taught to think, but to cram, and that is the fault of the teacher. The remedies I have to suggest are these: 1. Reduce the curriculum in regard to the special, abstract studies. 2. Shorten the hours. 3. Increase the number of teachers in proportion to the number of pupils. A teacher can not take care of 50, 75 or 100 pupils and do justice to them all. We must adapt the curriculum and hours to the ability of the average pupil, and not to that of the highest examples of intellectual development. No one is so quick to listen to the views of public opinion as the politician, and if he does not act as we think he should in this matter, it is because we have been a little tardy in expressing our opinions.

DR. F. SAVARY PEARCE, Philadelphia—The physician too often limits himself to actual medical treatment, and rarely takes the time to give any instructions to parents regarding the value of preventive or hygienic measures. He does not feel called on to take any active part in the discussion of these subjects at public meetings; a very important matter. The consensus of opinion of those who have taken part in this discussion has been clearly enough that the educational methods in this country are open to great improvement, and I trust that some effective measures will be taken by this Section so that the views held can be placed before the public in a brief and succinct form. We hope to be students to our dying day, but the bud must not be neglected.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich.—This is a topic that has been in the heart of every earnest physician in this country. This is the age of preventive medicine. Our duty is not alone to those who are here, but to those who are to be here in the future. We as neurologists, more than any other class of physicians, fully recognize that a large percentage of the abnormalities with which we have to deal can not be helped by to-day's methods. In many of these cases we can simply give temporary relief, but we know that if we do our full duty to-day we must strive to stem this constant current of disease. The other day we listened to Dr. Crother's excellent paper on the pathologic effects of alcohol. Each one of us, in his daily work, sees the injurious effects of alcoholic stimulants. The neurologist recognizes the utter hopelessness of dealing with chronic alcoholism. We know that it is one of the most fertile causes of disease; that it is filling our almshouses, insane asylums and prisons, and daily increasing the number of feeble-minded, and still, what have we done, as physicians, to declare that fact to the public? We as physicians also know that the prevalence of syphilis is responsible for a very large percentage of diseases that come before us every day. How can you help a case of tabes in its third stage? We must go further back and try to reach the root of the evil. Have we performed our full duty to the public or to posterity if we fail to make ourselves heard on these subjects? I believe we do not sufficiently recognize the fact that we are fulfilling a very small share of our duties in connection with preventive medicine. We all recognize the

fact that education is an important factor in the future welfare of mankind, and we also recognize that neuroses and psychoses may result from faulty school methods, but we are not yet in a position to take definite action regarding the matter. We have not collated the knowledge we have on the subject, and we are not in a position to say that this or that is the best method to adopt. That is something that must be done deliberately and scientifically, and our conclusions must rest on a broad, sound foundation.

THE VOLUNTARY AND INVOLUNTARY BRAIN CENTERS CONTROLLING THE OCULAR MUSCLES.*

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There are two groups of brain centers for controlling the movements of the eyes. One group is found in the cortex, and consists of nine distinct centers. In this group are two more centers, making eleven in all, but these two are connected with muscles within the eye, viz.: the Müller muscle in the ciliary body and the sphincter of the iris, and will not be specifically studied in this paper. The second group is located at the base of the brain, and consists of twelve distinct centers. In this group are four more centers, making sixteen in all, but these four are connected with the muscles within the globe already mentioned, hence they will be passed without further mention.

THE CORTICAL GROUP.

Experimentation and pathology both have given evidence of the existence of the cortical centers. Experimenters on the lower animals have not yet found all the cortical centers to be studied in this paper; nor have any of these centers been very definitely located. These experiments teach us that some of these centers are in the anterior part of the motor area, not far from the outer extremity of the crucial sulcus.¹ Future experimenters, doubtless, will be able to find them all and give to each an exact location.

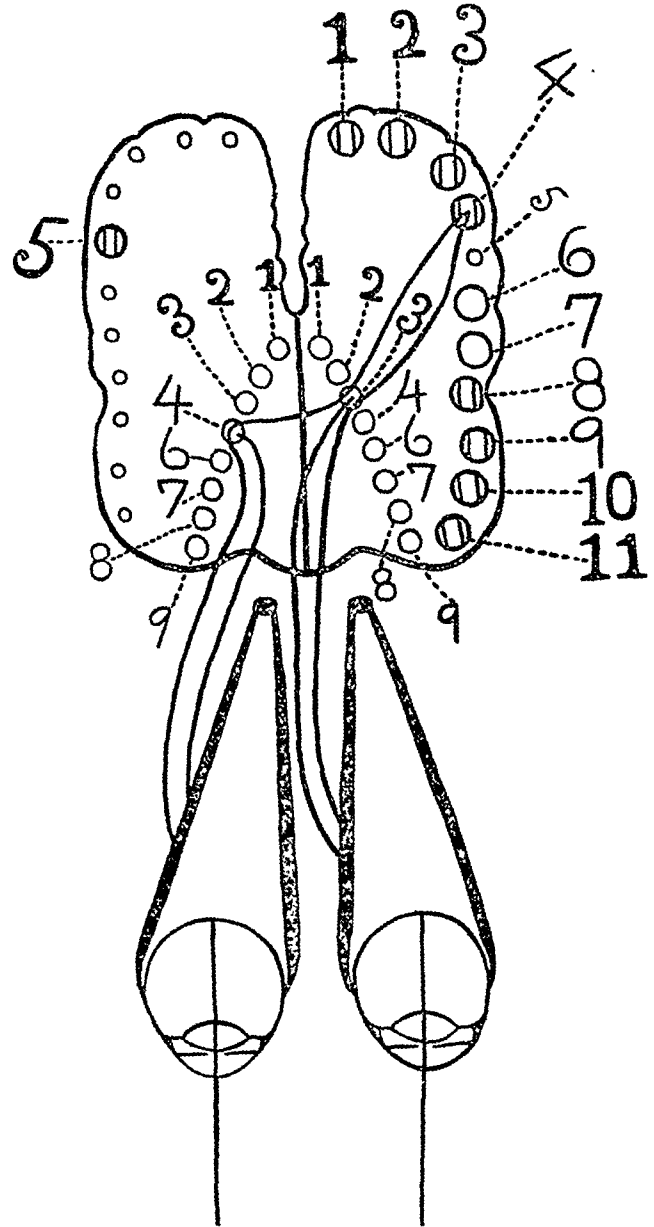
An irritative disease of the cortex, in the motor area, has caused the two eyes to turn spasmodically toward the opposite side; and destructive disease in the same part has caused a paralytic turning of the two eyes toward the corresponding side. Thus has pathology located both the fourth and fifth conjugate centers in the cortex.

Our chief evidence as to the existence of the cortical centers is physiology—the action of the muscles in moving the eyes. Each of the nine cortical centers is connected with two muscles, one belonging to each eye, thus showing that some of the fibers of each of the motor nerves cross over to the opposite side of the brain. This decussation, it must be confessed, has not yet been fully demonstrated anatomically; but this demonstration will come soon. Cunningham, in his anatomy, teaches more about the decussation of fibers of the motor nerves of the eyes than any one else whom I have consulted, but his interpretation of the crossing is erroneous.

Since the arrangement and exact location of the cortical centers controlling the ocular muscles are unknown, nothing but a schematic representation of them can be

made in a cut. The schematic plan is also followed in the cut, in the attempt to show the basal centers, notwithstanding the arrangement and location of these are fairly well understood.

The centers controlling the ocular muscles, whether cortical or basal, are under the mastery of the mind. Volition presides over all the cortical centers that are connected with the recti muscles and over two of the centers connected with the obliques, while the other two centers connected with the obliques are presided over by the fusion faculty of the mind. The basal centers



are all under the mastery of the fusion faculty. Those centers under the control of volition are represented in the cut by circles crossed with parallel lines, while those under the control of the fusion faculty are represented by circles only. All these centers are numbered arbitrarily, but in such a way as to lead to as little confusion as possible. The cortical centers are numbered from 1 to 9 on each side of the brain; but, since only half of these centers are needed for effecting the conjugate movements of the eyes, the other half are supposed to be inactive. The active nine, eight on one side and one on the other, are represented by large circles, while

* Read at the Fifty-fourth Annual Session of the American Section on Ophthalmology, and at the Executive Committee: Drs. J. A. and John E. Weeks.

1. See Stewart's Physiology, 4th ed., p. 473.

the inactive nine are represented by small circles. The basal centers on each side of the median plane are all represented as equal in size, for the reason that each must stand ready for action whenever an emergency arises.

The first cortical center is connected with two superior recti by means of two bundles of fibers, both bundles passing through the first basal center on the same side, the one to be distributed to the superior rectus of the corresponding eye, while the other bundle of fibers crosses to the first basal center on the opposite side, thence on to be distributed to the superior rectus of the other eye. Throughout their entire course these fibers are insulated, even in that part which passes through a basal center. When volition unlocks the first conjugate center the discharged neuricity goes only to the two superior recti, and in equal quantities. If the tonicity of the one muscle equals the tonicity of the other, the upward rotation of the one eye will be the same in rapidity and extent as that of the other.

The second conjugate center is connected by means of two bundles of nerve fibers with the two inferior recti. Both bundles pass through the second basal center on the same side, the one to the inferior rectus of the corresponding eye, while the other bundle crosses to the second basal center on the opposite side, thence to the inferior rectus of the other eye. What has been said of the insulation of the nerve fibers going from the first conjugate center is true of the fibers going from the second conjugate center. When volition liberates the neuricity in the second conjugate center, it is conducted in equal quantities, by the two bundles of fibers, to the two inferior recti. If the tonicity of these muscles is the same, the two eyes will be rotated downward equally rapidly and to the same extent.

The third conjugate center is connected by means of two bundles of nerve fibers with the two internal recti, both bundles of fibers passing through the third basal center on the same side, the one to the internus of the corresponding eye, while the other bundle crosses to the third basal center on the opposite side, thence to the internus of the other eye. These fibers are, likewise, perfectly insulated. To the liberated and transmitted neuricity the two interni always respond equally in time and extent, for the tonicity of the one internus is practically always equal to the tonicity of the other internus. The third conjugate center is very properly called the convergence center.

The fourth conjugate center directs and controls the right sweep of the eyes, and is therefore connected by means of two bundles of nerve fibers with the externus of the right eye and internus of the left eye. Both bundles of fibers from the fourth conjugate center pass through the third basal center on the same side, thence one bundle goes to the internus of the corresponding eye, while the other bundle crosses to the fourth basal center on the opposite side, thence to the externus of the other eye. This arrangement of the connecting fibers is shown in the cut, and will be referred to again. When volition liberates the neuricity in this center, it is conducted by the two bundles of fibers, in equal quantities, to the two muscles, and if the tonicity of one muscle is equal to the tonicity of the other, the two eyes will move to the right in perfect harmony.

The fifth conjugate center is connected by two bundles of nerve fibers with the externus of the left eye and internus of the right. As shown in the cut, the active fifth center is probably not on the same side of

the brain as the other active centers. The two bundles of fibers from the fifth conjugate center pass through the third basal center on the same side, thence the one bundle goes to the internus of the corresponding eye, while the other bundle crosses to the fourth basal center on the opposite side, thence to the externus of the other eye. In effecting the left sweep of the eyes, these muscles, under normal conditions, will respond in perfect harmony to the neuricity set free by the fifth conjugate center.

The five conjugate centers thus far studied are alike in several respects: (1) They are each under the control of volition; (2) each is connected with two muscles, the one belonging to the one eye and the other belonging to the other eye, and the connecting fibers are insulated everywhere; (3) the neuricity liberated by any one center goes in equal quantities to each of the two muscles; (4) they are all connected with the recti muscles; (5) they act in the same way whether there is orthophoria or heterophoria; in other words, these conjugate centers under the control of volition never concern themselves with the correction of heterophoria in any of its forms.

The sixth and seventh conjugate centers are under the control of the fusion faculty of the mind, hence these centers in the cut are not crossed by parallel lines as are the volitional centers.

The sixth conjugate center is connected by two bundles of nerve fibers with the two superior obliques, both bundles going through the sixth basal center of the same side, the one to the superior oblique of the corresponding eye, while the other bundle crosses to the sixth basal center on the opposite side, thence to the superior oblique of the other eye. This center acts in association with the second conjugate center. When the eyes are rotated downward by the second conjugate center, the vertical axes would be made to diverge above, a condition that would cause diplopia. The fusion faculty prevents this diplopia by exciting the sixth conjugate center, the neuricity from which is conducted in equal quantities to the superior obliques. These muscles responding prevent the divergence of the vertical axes, thus maintaining binocular vision; and they also help the inferior recti to rotate the eyes downward.

The seventh conjugate center is connected by two bundles of nerve fibers with the two inferior obliques. The two bundles of fibers pass through the seventh basal center on the same side, the one bundle to the inferior oblique of the corresponding eye, while the other bundle of fibers crosses to the seventh basal center on the opposite side, thence to the inferior oblique of the other eye. This center acts in association with the first conjugate center. When the eyes are rotated upward by the first conjugate center sending its neuricity to the two superior recti, the vertical axes would be made to converge above, a condition that would cause diplopia. To prevent this torsioning and its consequent diplopia, the fusion faculty causes the seventh conjugate center to discharge its neuricity, which is conducted in equal quantities to the two inferior obliques. These muscles responding prevent the torsioning of the eyes, thus maintaining binocular single vision; and they also help the superior recti to elevate the eyes.

The sixth and seventh conjugate centers not only act in association with the second and first conjugate centers, respectively, but, being under the mastery of the fusion faculty, they must also correct a cyclophoria which is equal in the two eyes, and must produce compensating cyclotropia in cases of oblique astigmatism

with equal, but opposite, distortion of the images in the two eyes.

Oblique rotations of the eyes can not be accomplished without creating a tendency on the part of both eyes to tort, but always to the same extent and in the same direction. If this torsioning occurred there would be no diplopia, for the vertical axes of the eyes would still be parallel, but there would be an apparent wheel-like motion of all objects in space, in the direction opposite to the torsioning. To prevent this torsioning in oblique rotations, there are two more conjugate centers, the eighth and ninth, certainly not under the control of the fusion faculty, but probably under the control of volition in the interest of visual judgments.

The eighth conjugate center is connected by means of two bundles of nerve fibers with the superior oblique of the right eye, and the inferior oblique of the left eye. The two bundles pass through the seventh basal center on the same side, thence one bundle goes to the inferior oblique of the corresponding eye, while the other bundle crosses to the sixth basal center on the opposite side, thence to the right superior oblique. This center is excited into action only when the rotation is obliquely up and to the right, which is accomplished by the associated action of the first and fourth conjugate centers, or down and to the left, which is effected by the associated action of the second and fifth conjugate centers. In either case the torsioning tendency of both eyes would be to the right. In these rotations the eighth conjugate center sends neuricity in equal quantities to the right superior oblique and the left inferior oblique, the contractions of which maintain the parallelism between the vertical axes and the median plane of the head, thus preventing the wheel-like motion that objects otherwise would have.

The ninth conjugate center is connected by means of two bundles of nerve fibers with the superior oblique of the left eye and the inferior oblique of the right eye. These two bundles from the ninth center pass through the sixth basal center on the same side, the one bundle to the left superior oblique, while the other bundle crosses to the seventh basal center on the opposite side to the right inferior oblique. This center is excited into action only when the two eyes are rotated obliquely up and to the left, which is accomplished by the associated action of the first and fifth conjugate centers, or down and to the right, which is effected by the associated action of the second and fourth conjugate centers. In either case the torsioning tendency would be to the left. To prevent the torsioning, and consequent wheel-like motion of objects, the ninth conjugate center calls into action the left superior oblique and the right inferior oblique, so as to keep the vertical axes parallel with the median plane of the head.

Like the five centers connected with the recti muscles, these two centers connected with the obliques perform the same kind of work whether there is orthophoria or heterophoria. No attempt is ever made by these two centers to correct any form of heterophoria.

In lateral rotation of the eyes only one conjugate center is excited; in vertical rotations there is associated action of two conjugate centers; in all oblique rotations there is associated action of three conjugate centers. During waking hours, consciously or unconsciously the point of view is changed frequently, and thus brief periods of rest come to all conjugate centers. It is doubtful if these centers ever excite nervous symptoms, whether the eyes be orthophoric or heterophoric. It is

true, however, that fixedness of gaze for a prolonged period will cause trouble.

BASAL CENTERS.

The basal centers differ in many respects from the cortical centers. There is one basal center for each ocular muscle, and each center can act only on one muscle. The basal centers are all under the control of the fusion faculty of the mind, and none of them are ever called on to discharge neuricity unless a condition exists that would cause diplopia. In emmetropia and orthophoria the basal centers never have any work to do, and, therefore, could never cause symptoms. In ametropia there is always an associated pseudoheterophoria for the correction of which there would be unremitting excitation of one or more of the basal centers. In many of these cases the pseudoheterophoria is more serious than the causative ametropia, but the correction of the latter means the cure of the former, provided there is no underlying intrinsic heterophoria. When ametropia is complicated with intrinsic heterophoria, what to do for the former becomes a question not to be answered in this paper.

Badly adjusted spheres or cylinders always give a tendency toward diplopia, for the correction of which one or more centers under the control of the fusion faculty must be continuously active, symptoms more or less severe always resulting. Prisms excite the basal centers only.

The final object of this paper is the study of the basal centers in their relationship to intrinsic heterophoria. In intrinsic heterophoria, the two muscles of a pair have not the same tonicity, and diplopia would always result if it were not for the existence of the basal centers; for, as already shown, at least seven of the nine cortical centers have nothing to do with the correcting of any form of heterophoria.

The basal centers connected with the ocular muscles are twelve in number, and all are found in the back part of the floor of the third vertical, in the floor of the aqueduct of Sylvius, and in the anterior part of the floor of the fourth vertical, six lying on either side of the median plane. Cunningham has shown that the fibers cross from the nucleus of the sixth nerve on one side to the nucleus of the third nerve connected with the internus, on the other side (from the fourth basal center to the opposite third basal center). His interpretation of this crossing was that it associated these basal centers in the right and left sweep of the eyes. It is probable that the partial decussation of the fibers of all the motor nerves takes place between the basal centers, but not to unite them in action. The fibers conducting neuricity from a basal center do not cross. These fibers begin in a basal center and end in a muscle on the same side. The crossing fibers simply pass through the basal centers on their way to the cortical or conjugate centers, and doubtless are insulated everywhere.

The basal centers will be spoken of as right and left, and are numbered as follows: The two connected with the two superior recti are right first and left first; the two for the inferior recti are right second and left second; the two for the interni are right third and left third; the two for the externi are the right fourth and the left fourth; the two for the superior obliques are the right sixth and the left sixth, and the two for the inferior obliques are the right seventh and the left seventh. As will be seen, these basal centers are numbered in harmony with the cortical or conjugate centers.

fulness and general weakness. All the women in the complicated cases were invalids in a greater or less degree.

TREATMENT OF CASES.

Of these 112 cases, 56 were under observation and treatment sufficiently long to enable me to speak with positiveness regarding results. A brief history of each case is presented, excepting the five cases in which there were neoplasms causing the displacements. There were two of ovarian tumors and three uterine fibroma. These were operated on, the tumors removed and the displacements cured. The uterus was removed by the supravaginal method in the fibroid tumor cases and in the ovarian tumor cases the retroversion and prolapsus were found cured on the patient's recovery from the operation.

Thirty-five cases were treated by non-operative methods. By "non-operative methods," as employed here, we mean posture, tampons, pessary, topical applications and internal medicines. In a few of the cases a curettage was done for the cure of endometritis, as, for instance, in Group 1, Case 12, in which there was marked endometritis and erosion, a curettage was done and a pessary employed for one and a half years. The patient was cured.

In some instances topical applications were made to the interior of the uterus for the cure of the endometritis, with successful results, as in Case 61, Group 1.

In one instance curettage, trachelorrhaphy and perineorrhaphy were done as in Case 64, Group 1. Here rest in bed and postures following the operation resulted in a cure of the patient. This case is included among non-operative cases.

The internal medicines employed were of more than incidental value in assisting in bringing about cure and relief. They consisted of laxatives when needed, cascara and rhubarb being preferred in cases of obstinate constipation. Occasional doses of salines were used in all recent cases and when there were evidences of chronic pelvic congestion. Hydrochloric acid and nux vomica and a carefully regulated diet were chiefly relied on in gastric disorders; bitter tonics and iron in suitable cases were prescribed.

Sometimes, when there was a large, tender uterus and prolapsed ovary, rest in bed with hot douches, an occasional saline, bitter tonics, general massage, passive movements and the knee-chest position were all employed, and brought to the patient great benefits. These cases are listed in the group as being benefited. They were not cured, but the patients were rescued from invalidism and were enabled to again take up and enjoy the duties of life.

The cases treated are divided into groups, a very brief outline history of each case given, with results and with brief remarks under each group. For the purpose of aiding those who care to study these cases, this will be found a convenient arrangement. It has been a laborious task for the writer to gather these histories and results, and to properly arrange and group them; but he has in the study incident to the work found himself abundantly rewarded.

The word cure here is applied in a positive sense in relation to the retroversion, but in a somewhat relative sense in reference to the complications; for instance, a case reported cured was well of the displacement at the end of the treatment and at the time of subsequent examination, and so were the complications immediately associated with or dependent on the displacement; whereas complications not so immediately associated

with the displacement were not cured, as, for instance, if the patient was well of all diseases except cystitis, or colitis, she was reported as cured.

When benefits result from the treatment, the extent of the benefit is indicated. It must be evident to any one familiar with the numerous abnormal conditions we are considering under the head of retroversion of the uterus that the various morbid manifestations we call symptoms have developed gradually and have made, if they have existed long, a deep and more or less lasting impression on the system and life of the patient. I have already stated that pain is the most constant symptom, and my experience in treating these and many other cases has taught me that it is the most persistent. The three symptoms most prone to persist are painful menstruation, pain in the inguinal region and nervousness. So frequently do these symptoms remain after all other evidences of disease of the structures under consideration have disappeared that we are compelled to acknowledge that the term cure must be employed in a restricted sense. A woman who is found an invalid, and so far restored to health that she is able to again take up the duties of her position and discharge them with alacrity without suffering more than an occasional attack of pain, discomfort or nervousness, may deem herself cured. Such good results are often effected in treating retroversion of the uterus with its complications both by operative and non-operative treatment.

GROUP 1.—TREATED WITH TAMPONS OR PESSARY, INTERNAL MEDICINES AND POSTURE. CURED.

CASE 7.—Miss A., aged 21. Retroversion. No complications. Overworked schoolgirl. Backache. Painful menstruation. Displacement of two or three years' standing. Rest. Internal medication. Pessary. Cure of displacement in one year. The symptoms disappeared much earlier.

CASE 14.—Miss B., aged 21. Retroversion. No complications. Backache. Painful menstruation. Pessary one year. Displacement cured. Symptoms but slight.

CASE 54.—Mrs. C. Married two months. Retroversion. No complications. Displacement of some months' standing. Slight cystitis. Tampons, then pessary four months. Cured.

CASE 12.—Miss D., aged 28. Retroversion. Slight prolapsus, endometritis and erosion. Curettement and pessary one and a half years. Cured.

CASE 61.—Miss E., aged 24. Retroversion. Endometritis, erosion of cervix. Gradual dilatation of cervical canal. Topical applications. Cured endometritis. Pessary worn one year. Displacement cured.

CASE 73.—Mrs. F., aged 30. No children. Retroversion, slight. Pelvic congestion. Recent case. Cathartics, restricted diet, internal medicines. Tampons. Cure.

CASE 100.—Mrs. G., aged 30. One child seven months old. Retroversion. Subinvolution. Ovarian congestion. Cathartics, internal medicines. Tampons. Cure.

CASE 64.—Mrs. H., aged 48. Seven children. Retroversion, first degree. Endometritis, laceration of the cervix and perineum. Curettement, trachelorrhaphy, perineorrhaphy. Rest in bed, posture. Cured.

SUMMARY—EIGHT CASES.

Pessary	5 cases.
Tampons	2 cases.
Plastic operation and rest and posture.....	1 case.

Of the number cured, it will be observed that they were all, except one (Case 64), young women, and none of the complications relates to injuries to the uterus or disease of the ovaries, except that one of them suffered ovarian congestion and one of laceration of the cervix. This is a most instructive series. It will be observed, too, that an effort was made to cure the endometritis by topical applications and two by curettage, and that the benefit of the knee-chest position was secured.

The pessaries employed were the Albert Smith retroversion, the Thomas-Smith retroversion or the Hodges closed bar retroversion pessary. The patient was placed in the knee-chest position or the exaggerated Sims position, with the head low and the body on the inclined plane. The uterus was then placed in its normal position by finger pressure or by a cotton probang carried behind the uterus and pressed forward and upward. In some instances these manipulations were not efficient, and then recourse was had to the Elliott or Sims repositors. If we were still unsuccessful, we knew we had to deal with adhesions and desisted from further efforts at replacement. Such cases are best treated by operative measures.

The fitting of the pessary is of great importance. The instrument should be neither too long or too short, too narrow or too wide. As a rule, a digital examination will enable one to make a close estimate of the size of the instrument required. After the introduction of the pessary its efficiency should be tested in many ways, as, for instance, by allowing the patient to walk up and down a flight of stairs or step on a chair and down again and then be examined to determine if it is in proper position and is yielding the proper support. If it does not meet all the requirements it should be replaced by one that does. In some instances no pessary will be retained or give the proper support. In such cases, as a rule, tampons, no matter how long employed, will be of little permanent value.

GROUP II.—RETROVERSION TREATED BY TAMPONS. BENEFITED.

CASE 23.—Mrs. A., aged 35. No children. Retroversion, endometritis and slight adhesions. Had pus tube removed some months ago. Tampons and treatment of the erosion. Markedly improved.

CASE 37.—Mrs. B., aged 46. Three children. Recent pelvic inflammation. Retroversion, first degree. Rest, internal treatment and tampons. Marked improvement.

CASE 49.—Mrs. C., aged 56. Three children. Retroversion, senile vaginitis, laceration of cervix. Past menopause. General and local treatment, tampons. Symptomatic cure.

CASE 53.—Mrs. D., aged 35. Two children. Retroversion, laceration of the cervix uteri and laceration of the perineum, slight. Left ovary congested. Tonics, rest, tampons. Improved.

CASE 71.—Mrs. E., aged 24. No children. Retroversion, endometritis and prolapsus of one ovary. Not many symptoms. Rest, posture and internal medication. Improved.

CASE 80.—Mrs. F., aged 39. Four children. Retroversion, little endometritis, prolapsus of both ovaries, dilated colon. Replaced uterus, applied tampons, colonic irrigation. Much improved after one month's treatment.

CASE 93.—Mrs. F., aged 22. No children. Retroversion, prolapsus of uterus and both ovaries. Has had pelvic inflammation. Tonics, alteratives, laxatives and tampons. After three months' treatment much improved. (Recent case.)

CASE 96.—Mrs. G., aged 34. Two children. Extreme retroversion, prolapsus of right ovary, a chronic invalid. Rejected operation. Rest, posture, internal medicines. Tampons. Greatly benefited after three months' treatment.

Three cases treated by this means (Cases 37, 53 and 93) were recent. The benefit of the treatment in these cases was most marked, and was in all probability quite as much due to the rest and internal medication as to the use of the tampons. This plan of treatment is certainly highly beneficial in recent cases, where there is subinvolution.

In a number of these there was so much sensitiveness of the pelvic tissues the pessary could not be tolerated. In other cases the presence of endometritis required topical applications, so that in these cases tampons were chosen instead of the pessary.

In Case 49 the senile vaginitis prohibited the use of the pessary, and in Case 23 the presence of adhesions prohibited the pessary. In this last case, gentle massage either stretched or loosened the adhesions.

The technic of the application of tampons is so well known it need not be described here further than to say that little benefit may be expected in their use unless the uterus is first replaced while the patient is in the knee-chest or in the exaggerated Sims position.

GROUP III.—TREATED BY PESSARY. RELIEVED.

CASE 16.—Miss A., aged 36. Retroversion. No complications. Backache. Profuse menstruation. Pessary gave great relief. Passed from sight after a few months.

CASE 21.—Mrs. B., aged 24. No children. Retroversion. Stenosis of internal os. Vicarious hemorrhage. Declined dilatation and Alexander's operation. Pessary gave marked relief. Passed from view in a month.

CASE 24.—Mrs. C., aged 40. No children. Retroversion only. Pessary. Marked relief.

CASE 32.—Mrs. D., aged 30. Retroversion only. One miscarriage. Pessary. Marked relief. Became pregnant.

CASE 42.—Mrs. E., aged 51. Four children. Retroversion, bilateral laceration of the cervix slight, dyspepsia, cystitis, internal medication, topical applications, tampons, then pessary. Marked improvement.

CASE 43.—Mrs. F., aged 34. Widow, no children. Retroversion, endometritis. Topical applications, internal medication, tampons, the pessary. Marked improvement.

CASE 45.—Miss G., aged 25. Retroversion and prolapsus of right ovary. Pessary and posture. Marked improvement. Not cured.

CASE 48.—Mrs. H., aged 33. Two children. Retroversion, endometritis, prolapsus second degree, chronic inflammation of ovaries. Curettement, rest in bed, general massage, tampons, then pessary. Should have been operated on. Much improved.

CASE 58.—Mrs. L., aged 32. Two children. Retroversion, prolapsus of uterus and right ovary. Slight laceration of the cervix and perineum. Rejected operation. Results unknown except that the pessary gave comfort.

CASE 69.—Miss J., aged 20. Retroversion, erosion, pelvic congestion. A few topical applications, internal medication. Pessary. Marked improvement.

CASE 70.—Miss K., aged 30. Retroversion, endometritis, ovarian hyperemia. Pessary and internal medication. Improved while at rest. Should have been curetted and had Alexander's operation.

CASE 77.—Mrs. L., aged 29. Retroversion, prolapsus of right ovary, not much pain, some bearing down. Pessary. Marked relief.

These twelve cases were treated by internal medicines, topical treatments and with pessary. These patients were all markedly benefited, and none of them have returned for operation. It is not to be denied that many such cases have relapses after a time and must patiently endure another course of treatment. In three of these cases there was prolapsus of one ovary. The ovary could be replaced, and the pessary made no pressure on it. In several cases it was found at first that the pessary could not be borne, but after using the tampons for a time the pessary was worn with comfort. It will be noted that four of these cases were unmarried women. Former experience has taught me that young unmarried women do not well bear the tampon treatment. I am convinced that such cases are best treated by the pessary or operative measures.

GROUP IV.—NOT BENEFITED BY TAMPONS AND PESSARY TREATMENT. COMPLICATIONS PRESENT IN EACH CASE.

CASE 50.—Miss A., aged 24. Retroversion, prolapsus of uterus, both ovaries, endometritis. Knee-chest position, applications to endometrium, tampons. Not benefited.

CASE 57.—Miss B., aged 24. Retroversion, retroflexion, left ovary prolapsed. Supposed to have gallstones. Tampons, pessary and posture used faithfully. No benefit.

CASE 82.—Mrs. C., aged 40. One child. Retroversion, prolapsus, some adhesions. Massage, posture and tampons. Patient refused operation. No benefit from treatment.

CASE 95.—Mrs. D., aged 33. One child, two miscarriages. Retroversion, laceration of the cervix, slight prolapsus, endometritis and both ovaries prolapsed. An invalid. Rejected an operation. Internal medicines, applications to endometrium. Tampons. No benefit.

CASE 102.—Mrs. E., aged 42. Two children. Retroversion, enteroptosis, movable right kidney, hyperplasia of the uterus. Exercise and tampon. Not much of any benefit.

CASE 104.—Mrs. F., aged 40. Two children. Retroversion, prolapsus of right ovary, laceration of cervix uteri, hyperplasia. Refused operation. Pessary a failure. Not benefited by tampons and exercise.

CASE 108.—Mrs. G., aged 33. One child. Retroversion, prolapsus, diastasis of recti muscles, prolapsus of right ovary. Internal medication, exercise and tampon treatment. No benefit.

These seven cases were not benefited. They declined operative interference. I predicted in most of them a failure, but promised to do the best for the patients aside from operation.

SUMMARY—THIRTY-FIVE CASES.

Thus we have cured by tampons or pessary . . .	8 cases.
Relieved by tampons, etc.	8 cases.
Benefited by pessary	12 cases.
No relief	7 cases.

There were also many cases in which operation was advised and refused, so the tampon or pessary treatment was advised. They passed from view after first examination, so that it is impossible for me to state the results of the treatment.

It will be seen by this (Group 4) table that five cases were treated by exercise, tampons, etc., one by pessary alone and one by both pessary and tampons. Of the five cases treated by tampons alone there were two cases in which there was general enteroptosis, three of prolapsus of the ovaries and one in which there were adhesions.

One will ask why this form of treatment when the cases seemed so hopeless at the onset. We yielded to the importunities of the patients to do what we could for them aside from operative intervention. Doubtless the majority will in the end be operated on.

GROUP V.—TREATED BY MAJOR OPERATIVE MEASURES. CURED OR BENEFITED.

CASE 3.—Miss A., aged 25. Retroversion, slight endometritis, movable kidney. Ventrosuspension. Nephrorrhaphy. Cured.

CASE 6.—Mrs. B., aged 21. One child. Retroversion, prolapsus of ovary, endometritis, chronic ovaritis. Pessary failed. Salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 9.—Mrs. C., aged 25. One child. Retroversion, endometritis, slight bilateral laceration of cervix, prolapsed and enlarged left ovary. Curettage, ventrosuspension, removal of left ovary, resection of right ovary. Cured for a year, then right ovary became painful, enlarged and tender. Asks its removal.

CASE 17.—Miss D., aged 30. Retroversion, endometritis, prolapsus of ovaries. Curettage, salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 29.—Mrs. E., aged 30. One child. Retroversion, prolapsed cystic and adherent ovaries. Salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 31.—Miss F., aged 22. Retroversion, prolapsus of left tube and ovary, adherent right ovary. Salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 40.—Mrs. G., aged 55. Seven children. Retroversion, prolapsus, rectocele and cystocele, senile endometritis. Curettage, anterior and posterior colporrhaphy, ventrofixation. Cured.

CASE 64.—Mrs. H., aged 28. One child. Retroversion, cystitis, prolapsus of one ovary, ovary cystic, perineal fistula. Operated for fistula, did salpingo-oöphorectomy and ventrofixation. Cured except the cystitis.

CASE 68.—Miss I., aged 34. Retroversion, prolapsus of right ovary, endometritis, gastro-intestinal disorder. Curettage, removal of right, resection of left, ovary. Ventrosuspension. Cured of pain and menstrual disorders. Dyspepsia much benefited. Cured.

CASE 75.—Mrs. J., aged 34. Four children. Retroversion, prolapsed and inflamed ovary, endometritis, patient an invalid. Curettage, extirpation of ovary and ventrosuspension. Patient regained her health.

CASE 97.—Mrs. K., aged 41. No children. Retroversion, prolapsus, cystic ovaries, endometritis. Treated with tampons and pessary. No relief. Curettage, salpingo-oöphorectomy, round ligaments, shortened by Tait's method. Health much improved.

CASE 105.—Mrs. L., aged 40. Two children. Retroversion, prolapsed and cystic ovary, hyperplasia of the uterus, ventrosuspension. Marked benefit.

CASE 112.—Miss M., aged 28. Retroversion, elongation of cervix, hypertrophied corpus uteri, endometritis. Curettage, Alexander's operation, later amputation cervix. Benefited.

Nine cured and four markedly benefited. Thirteen cases operated on in which benefit was experienced. In twelve cases an abdominal section was done and one or both ovaries were removed. In all of these cases the ovary removed had been inflamed for a considerable time and was thought to be incurably diseased, and hence was removed. A few of the cases had been previously treated by tampons and pessaries without benefit, but either cured or greatly relieved by curettage, suspension of the uterus and removal of one or both ovaries.

My experience with these and other cases leads me to the conclusions that where there is marked chronic inflammation of the ovaries as evidenced by severe, persistent pain in the ovarian region, painful defecation and many reflex symptoms, little short of resection or extirpation of the ovary will be of service in restoring the patient to health.

A word should be said regarding resection. In a previous paper,¹ based on a study of more than one hundred cases, the author shows that in his hands resection of the ovary is beneficial where the evidence of disease is limited to a single large retention and a few small retention cysts superficially situated, or in case of a single hematoma in which only part of the ovary was involved, and that even in such selected cases, fully 20 per cent. of cases were failures demanding a subsequent extirpation of the ovary.

This group shows the severe cases, those having so many and serious complications that any other treatment than operative was considered ineffective.

The method of ventrosuspension employed by the writer should be described. He did not follow the technic of Kelly. That method was abandoned by him some years ago because of the unfortunate reports of cases of difficult labor and of obstruction of the bowels. So far the writer has been quite well satisfied with the results in cases in which the following technic has been employed, viz.: The stitches were passed through the anterior surface of the body of the uterus just below the superior border. Two catgut stitches were carried one-fourth to one-third of an inch in depth into the

muscular coat of the uterus, the point of insertion into and exit from the uterus being about one-half inch apart and the stitches being separated by one-fourth of an inch. The ends of these threads were then carried through the peritoneum, deep fascia, muscular tissue and superficial fascia on either side. A third stitch, this one of silkworm gut, is placed in the tissues of the uterus more superficially and between the deeper catgut stitches. This stitch also passes through all the tissues of the abdominal wall on either side of the incision so that when tied it serves as a through-and-through stitch. The peritoneal surface of the uterus immediately over the three stitches imbedded in the uterine wall is scarified. The catgut stitches are tied first and then the silkworm-gut stitch.

From my description this would appear to be a ventrofixation, but it is not; it is a ventrosuspension. I have done a secondary operation for the removal of an inflamed ovary in two cases, and in both cases have found a single band of adhesion, in one instance one-third inch long and in the other one-half inch long, suspending the uterus as by a ligament from the anterior abdominal wall. The single superficial silkworm-gut stitch is important in preventing the formation of two bands. It is allowed to remain two weeks before removal. Several of my patients on whom this suspension has been done have become pregnant and passed through the period of gestation and labor without untoward symptoms. I do not put this forward as the only reliable means of suspension. It is, however, an efficient one and the one I prefer if neither or but one ovary is removed.

GROUP VI.—OPERATED ON WITHOUT MUCH, OR ANY, BENEFIT.

CASE 33.—Miss A., aged 18. Retroversion, marked endometritis, erosion, membranous dysmenorrhea. Curettage and Alexander's operation. Displacement rectified, membranous dysmenorrhea continues. Endometritis seemingly well for a time, then reappeared.

CASE 47.—Mrs. B. Widow. Two children. Retroversion, laceration of the cervix uteri and inflammation of left ovary. Curettage, trachelorrhaphy, extirpation of one ovary and resection of the other, ventrosuspension. Only partially relieved. After a time the remaining ovary became painful and enlarged. Patient begged to have it removed.

CASE 57.—Miss C., aged 24. Retroversion and retroflexion, left ovary prolapsed and enlarged, weak and nervous patient. Internal medicines, tampons and pessary did no good. Curettage, removal of one ovary, ventrosuspension. No relief, still an invalid.

In all three of these cases it would have been better treatment to have removed both ovaries. It was not done in the first case because the patient was a young woman, eighteen years of age. It was a very severe case of membranous dysmenorrhea, and was not at all benefited by the operation. In the second case, the woman was a widow, twenty-nine years of age, and wanted to marry again and bear children.

In our list there were two cases in which there were ovarian tumors producing the displacement. In both the retroversion disappeared after removal of the tumors. There were also three cases of small fibroid tumors of the uterus. Hysterectomy was done in these cases.

CONCLUSIONS.

My conclusions are:

1. Simple uncomplicated retroversion of the uterus gives rise to but few symptoms, the chief of which are backache and bearing-down pain. Painful menstruation occurred in 37 per cent. of the cases. Uncomplicated cases constitute but 7.01 per cent. (8 in 112) of the cases

we have studied. Five uncomplicated cases were treated by the non-operative plan, three were cured and two greatly relieved.

2. The severity of the symptoms and the prospect of cure depends largely on the number and character of the complications. Prolapsed and chronically inflamed ovaries, endometritis and laceration of the cervix uteri constitute the most common and serious complications.

3. The most common complications are: Prolapsus of one or both ovaries, 42 per cent.; endometritis, 28 per cent.; laceration of the cervix, 24 per cent.; prolapsus of the uterus, 15 per cent.; adhesions, 13 per cent.; laceration of the perineum, 7 per cent.; movable kidney, 7 per cent.; ovaritis without displacement, 8 per cent. of cases. The most common and almost universal symptom is pain, 74 per cent. This includes painful menstruation, 36 per cent.; backache, 35 per cent.; pain in inguinal regions extending down the limbs. In but 21 per cent. of cases did habitual constipation exist. Various degrees of invalidism existed in all complicated cases.

4. In the treatment of the simpler and less complicated cases the non-operative treatment yields satisfactory results. Recent cases, especially those following labor, improve rapidly under this form of treatment.

5. Displacements of long duration, accompanied by the more serious complications, are not cured by this method, and the benefits resulting are scarcely sufficient to justify the effort.

6. Operative methods in the severest forms of displacement and complication are attended by a large per cent. of cures, and should be employed in preference to all other means. So large a percentage of these cases have multiple complications that two or more operations may be required in each case.

7. The danger attending the operative method of treatment is very small. In the twenty-one cases reported there was no mortality.

RETRODISPLACEMENTS OF THE UTERUS.

A FURTHER REPORT ON OPERATIONS ON THE UTERO-SACRAL AND ROUND LIGAMENTS.*

J. WESLEY BOVÉE, M.D.

WASHINGTON, D. C.

At the meeting of the American Gynecological Society in 1902,¹ and the following month before this Section,² I presented this subject, reporting 8 cases operated on by the vaginal and 3 by the abdominal route. At this time I desire to report 17 cases operated on by each of the two routes, together with some points noted from this experience. There has been no fatality or even notable morbidity in the 41 cases. In every instance of shortening the round ligaments the plan suggested by Webster and Baldy has been practiced. Curettage was done in every one of the 17 vaginal operations. In 3 of them trachelorrhaphy was done in addition, and in 8 perineorrhaphy and trachelorrhaphy. In one of these anterior and posterior colporrhaphy was added; in another posterior colporrhaphy up to the vaginal roof was done. In one the anterior vaginal wall was lengthened and attached at a higher plane to the cervix. In another case hemorrhoids were removed at the same sitting. In one an ovary was resected and in 2 others the peritoneal

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Bovée: *Amer. Gynecol.*, 1902, 1, 35-45.

2. Bovée: *THE JOURNAL A. M. A.*, 1902, *xxxix*, 12-15.

cavity was entered through the cul-de-sac of Douglas for purposes of exploration. In 9 cases the round ligaments and in 8 the uterosacral ligaments were shortened. In none of these vaginal operations was both sets of ligaments shortened.

In the 17 cases by the abdominal route the round ligaments alone were shortened in 4 cases, the uterosacral ligaments alone in 7, and in 6 both these sets of ligaments were shortened. The vermiform appendix either normal or pathologic was removed 7 times, pelvic adhesions severed 7 times, ovaries resected 3 times and 1 appendage removed in 4 and both in 2 cases. In two instances the anterior vaginal wall was lengthened and in one of them it was detached from the cervix and reattached at a higher plane. In one case the ovarian ligaments were attached to the broad ligaments just posterior to the fallopian tubes by two stitches of fine catgut passed through them near the ovaries.

In 10 cases curettage was done. In one of these trachelorrhaphy and in another perineorrhaphy was added; in another perineorrhaphy and posterior colporrhaphy, and in 5 both trachelorrhaphy and perineorrhaphy were done. In one of these 5 posterior colporrhaphy was added. Thus it will be observed that in none was the reparative work limited to the round and uterosacral ligaments.

In my paper of last year an effort was made to show the very important part played by the uterosacral ligaments and the anterior vaginal wall, or uterovesical ligaments, in maintaining the position of the uterus. Reference was also made to the function of the round ligaments. I have found nothing to modify my views in that respect. I have done no other operation for retrodisplacement of the uterus in more than one year. Ventrosuspension, ventrofixation and Alexander's operation, all of which I formerly practiced without accident, I have abandoned. In my own work I have had but one failure in Alexander's operation, and that was probably due to faulty ligamentation about the cervix, allowing it to move forward too far, and a tendency to retention of urine. In a case of ventrosuspension the same faulty ligamentation led to recurrence of the retroversion and in one of ventrofixation. Edebohls³ later found the cervix protruding from the vulva and the body firmly fixed to the abdominal wall.

The reasons for abandoning Alexander's operation were the journal reports of large numbers of cases of hernia, suppuration and relapses following that operation and the belief that the plans herein suggested are better. Goldspohn's modification of it was a great improvement, but not sufficient for all cases, as it was practically addressed to no supporting structures of the uterus other than the round ligaments.

Attaching the uterus to the abdominal wall never appealed to me as an ideal procedure, and yet, as a rule, it has maintained a popular position in the list of operations for retrodisplacements of the uterus. If the lower supporting structures of the uterus be faulty from maldevelopment or injury, one must expect failure, as a rule, to follow it. Such a structure⁴ as this ligament traversing the peritoneal cavity would seem to be dangerous. If we are to consider the fatal complications that have been recorded we will at once see the force of this suggestion.

R. B. Hall⁵ said: "I have had 3 cases of intestinal obstruction containing a coil of ileum around this little

ligament left afterward. Two of the cases I have operated on, the other having declined operative measures. The case in which operation was refused died. Autopsy revealed a simple case of intestinal obstruction which could have been relieved by operation and life undoubtedly saved." Williams,⁶ Jacobs⁷ and Olshausen⁸ report 3 cases of fatal intestinal obstruction from this false ligament, and Thomas⁹ and Lindtors¹⁰ report successful operations for the same conditions. We have further to consider the many cases of cesarian section positively due to interference with uterine development from these abdominal attachments. Only two weeks ago I saw an example of it. In this case the operation had been done by an expert, but the evidence of its causal relation to impossibility of delivery *per vias naturales* was positive.

The results in these 41 cases are nearly perfect and have determined me to examine very critically every patient in whom surgical treatment of retrodisplacement is contemplated to decide the exact causes of the displacement and to plan the measures to be employed. While a lacerated perineum is not *per se* productive of posterior uterine displacements, yet straining at stool incident to its resulting constipation may produce them. Laceration of the cervix, if deep, very markedly tends to uterine retrodisplacements. Lacerated vaginal walls—particularly its roof—is a strong etiologic factor. All these conditions should be recognized and given their proper positions in etiology that treatment may be scientifically applied. In many cases, particularly in women who have had tedious labor or have been delivered carelessly with forceps, the fascia by the sides of the rectum and which goes toward making up the uterosacral ligaments, will be torn and much relaxed. In such the vaginal route is not indicated. Here abdominal section and the Trendelenburg position are imperative. Intra-peritoneal conditions are best mastered by it, and one knows those conditions, which is not the case with the vaginal route. I have not the intrepidity that necessarily accompanies severing intraperitoneal adhesions without the sense of sight. I know it is done, but the inability of the skillful diagnostician to always detect abnormal pelvic conditions leads me to fear this procedure. Therefore, I prefer always to open the abdomen when such work is to be done.

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DISCUSSION

ON PAPERS OF DRS. DUNNING AND BOVÉE.

DR. G. BETTON MASSEY, Philadelphia—I have never failed to get perfect results in these cases of retroversion and retroflexion without ovarian or tubal disease. All the symptoms disappear, although I believe that in actual retroflexion I have never straightened the uterus. It is my belief that the posterior wall of the uterus is sclerosed and atrophied and that nothing will remedy this, though perfect health may be restored. These patients are entitled to the best help, and none of the uncertain operations are necessary. For cases complicated by ovarian disease I presented a method last year at Saratoga which has evoked considerable interest since, and I am sure that it will be very valuable. It is the cataphoresis diffusion of mercury through the abdominal wall into the chronically inflamed parts, thus sterilizing the disease. I have since verified the peculiar experience then related, in which menstruation was suppressed for a month or so after treatment. Such treatment may have to be greatly prolonged, but many patients are also cured of the patulous pus tube

6. Williams, D. H.: Am. Gyn. and Obst. Jour., 1900, xvi, 573.

7. Jacobs: Deutsche Med. Woch., 1894, xxii, 489.

8. Olshausen: Westphalen, Monatsschrift f. Geb. u. Gynäk., July 3, 1895.

9. Thomas, C. P.: Am. Gyn. and Obst. Jour., 1901, xviii, 153.

10. Lindtors: Centralbl. f. Gynäk., Bd. xxii, No. 16, 414.

3. Edebohls: Trans. Am. Gyn. Soc., 1901, xxvi, 159.

4. Bovée: THE JOURNAL A. M. A., 1899, xxxiii, 268.

5. Hall, R. B.: THE JOURNAL A. M. A., 1899, xxxiii, 186.

and the adhesions that follow a pelvic inflammation. I think that if Dr. Dunning would substitute this treatment for the method which failed, he would have a higher percentage of successes.

DR. E. S. LEWIS, New Orleans—It is essential to remove the adhesions which are responsible for the displacement by massage, trachelorrhaphy or operations on the vagina or perineum; then, even if the retroversion continues, in many instances the symptoms are relieved. My usual treatment in suitable cases is the use of the pessary; cases in which all inflammatory complications have been subdued entirely. I have derived marked benefit from the pessary and still resort to it, although not as frequently as in former times, as it is an instrument which has and may do a great deal of harm. Of the operative methods I prefer ventrosuspension, not ventrofixation.

DR. WALTER B. DORSETT, St. Louis—I have not abandoned the pessary, and do not expect to. The pessary has a place to-day as it always had. Some inflammatory cases with adhesions can be treated for a considerable length of time with a lamb's wool tampon, and finally the pessary can be worn to good advantage. A great deal of harm has been brought about by Kelly's operation. I do not believe in tipping the uterus upside down and fastening the posterior wall of the uterus to the anterior wall of the abdomen. It is not in accordance with physiology. On account of the leverage it is made to draw out pieces of peritoneum to form long bands. These bands may catch intestinal loops and serious trouble result. But if the anterior part of the body between and below the two attachments of the round ligaments is attached to the anterior abdominal wall I can not see that any harm can come from it. I have had five cases of labor following ventral suspension, and one of the cases has been delivered twice. I do not see how we can have any entanglement of the bowel if the cases are selected properly and the anterior wall of the uterus brought in close apposition to the uterus. There is no leverage on which the uterus can pull back, but it is held firmly against the abdominal wall without any possibility of the intestines dropping in front of it. If turned back the other way we have the entire intra-abdominal pressure bearing down on the uterus and pulling out these adhesions.

DR. S. E. MILLIKEN, Dallas, Texas—I believe that we all to some extent use the pessary, but it is a question whether a pessary can replace the uterus. The pessary is indicated in cases in which there are no inflammatory adhesions; in other words, in retrodisplacements of a more or less congenital or acquired type without any inflammatory condition.

DR. C. O. THIENHAUS, Milwaukee—The uterus belongs in the pelvis, and there is no logical reason why we should perform abdominal section and abdominal suspension when the same work can be done with more safety to the patient and better immediate and remote results by way of the vagina, and at the same time by vaginal suspension the uterus is left in the place where Nature placed it. All surgeons with a little experience in vaginal celiotomy concede that this operation has great advantages over abdominal section so far as the immediate and remote safety of the patient is concerned. Conceded this, the logical consequence is, that everything ought to be performed by this route, if possible. It is true that vaginal celiotomy and suspension are hardly applicable for the general practitioner, but the specialist ought always to bear in mind that the welfare of the patient is the first law which has to govern our methods of operation, not difficulties of operative procedures, which can be overcome by practice. Whether one prefers vaginal shortening of the round ligament following the methods of Vineberg, Wertheim or Ries, or vaginal suspension in cases of retroflexion of the uterus is merely a matter of personal like or dislike. But it must be conceded that vaginal shortening of the round ligament allows a greater mobility of the uterus. I prefer the following method of vaginal suspension: After an inverted T-shaped incision on the anterior vaginal wall, and thorough freeing of the bladder from the cervical part of the uterus the vesico-uterine fold is opened by a transverse incision, then the uterus is drawn forward by a tenaculum forceps and drawn

into the vagina. If it is necessary to perform conservative or radical work on the appendages after this has been done under perfect guidance of the eye, the uterus is pushed back and now fixed by one silkworm-gut suture 1.5 to 2 centimeters above the internal os. This suture, passing through vagina, peritoneal fold and uterus, closes the abdominal cavity and remains for six weeks. What is accomplished by this? The vesico-uterine fold which formerly reached down to the point of the internal os now only reaches to the middle of the body of the uterus, but the fundus of the organ is left free and movable, so that no disturbance can occur during future pregnancies. In chronic inflammation of the appendages with adhesions in Douglas' pouch, parametritis posterior, etc., I usually employ hot douches, massage, etc. (not in pus cases), for two weeks before the operation. I do not by this time make the uterus movable, I open the posterior cul-de-sac first, and after freeing the uterus from the adhesions the anterior celiotomy is performed in a manner as cited above. In such cases a strict diagnosis and selection must be made before operation, as in some of them it is preferable to use the abdominal route because of too dense adhesions. Many women afflicted with retroflexion, who would not submit to abdominal suspension, have, after learning the advantages of the vaginal route, readily consented; it is my opinion that many women, if they knew the difference between abdominal and vaginal celiotomy, would still less allow abdominal operations. I never lost a case of this class operated on by the vaginal route, and I never saw an infection. The operation can be performed in uncomplicated cases in from 5 to 10 minutes, and the patient can leave the hospital on the eighth day, provided no plastic operation has been found necessary. I believe, furthermore, that this operation will do away with many a pessary and its inconveniences. After proposing this method to a patient wearing a pessary I have no difficulty in obtaining her consent for operation.

DR. J. H. CARSTENS, Detroit—Dr. Thienhaus does a Mallin-crodt operation and a Duerhsen, which is all very good, and yet once in a while there comes a case in which you can not use either. What is to be done? If a uterus that is turned back is turned over there results a general ptosis of the uterus and of the other pelvic organs; there is a dragging on the bladder, and all these organs can not be lifted up by that kind of an operation. In such cases a ventral suspension is required, or a sacral ligament operation, or a shortening of the round ligament. Dr. Dunning covered the whole ground; he simply said that a retroverted uterus was a complicated disease, some cases can be cured by the pessary and local treatment; some cases with an operation, and some can not be cured by either method. I do not see what we can accomplish in some of these cases by insisting on an operation. Some operations are very good in a certain number of cases, but are not worth a continental in others. It is a question of diagnosis, and then apply the treatment indicated in that particular case. Bovée's operation is a splendid one in certain cases, but he does not do that operation in every case. He selects his cases and always does the operation that is applicable in that particular case.

DR. V. M. SHOWALTER, Point Clear, Ala.—We have to face conditions and not theories. In addition to the ptosis of the pelvic organs, there is a certain amount of hyperplasia which, with the congestion of the organs, makes it necessary to attempt to restore the organs to their normal condition. Allow a certain period for the absorption of exudate which may have accumulated as a result of the passive congestion before any radical steps are taken for fixation of the uterus in the abdominal cavity. When this course is pursued the percentage of failures will be less after a properly selected pessary has been used; and I would like to lay special emphasis on the proper selection of a pessary according to the individual requirements of the case.

DR. H. O. MARCY, Boston—Fifteen years ago we had reached a great point, we thought, when the Alexander operation gave us the shortening of the round ligaments. After a little while we found that the operation was a failure. It was not physio-

logically correct. But occasionally good results follow the Alexander operation. Opening the abdomen, however, is the most important procedure, because there is almost always some other condition than that described by the last speaker. The uterus in its normal position is freely movable. When it is out of place there is suffering and discomfort and a whole train of pathologic symptoms. Only by opening the abdomen can we determine what these other factors are. Then we are able to shorten the round ligament so as to restore the reproductive organs to their normal condition, and that is by ventral suspension according to physiologic principle. This is so easy and clear and successful in the hands of an aseptic operator that we have little to look for in the way of improvement. The operation is ideal. The shortening through the vagina is not as satisfactory in my hands as is the abdominal route, since by this method it is impossible to determine accurately the condition of the pelvic structures.

DR. EDWIN RICKETTS, Cincinnati—I advocate the abdominal route. As Dr. Dunning has said, each case is a case in itself and each man must meet the emergency or let the cases alone. One thing not mentioned is pregnancy after ventrofixation. It has been my misfortune to look after some cases that have had all kinds of shortening of the round ligaments done. One case, a woman of 27, had her right ovary removed and had a ventral fixation. Four years afterward she became pregnant twice, and the general surgeon who saw her thought she should not go on to full term. Abortion was resorted to at two different times. Finally at the third pregnancy she consulted a gynecologist, who stitched the uterus to the abdominal wall and told her to let the pregnancy continue. She was delivered of a child at full term. The anterior wall of the uterus had been brought up tight against the peritoneum and the ligament that had formed was four inches in length by actual measurement. After ventral suspension a woman takes her life into her own hands, but the case should be explained fully to her, and if she ever becomes pregnant she ought to agree to surgical intervention. As to the pessary, I want to caution those who are so sure as to the healthy conditions in round ligaments and ovaries. If the abdomen is opened a diseased ovary is often found with the appendix attached to it. Pessaries have been on the down grade. If pessaries are to hold up the uterus, to allay the uterine congestion and overcome the dragging of the appendix, our friend Massey is correct when he says he will put his patients on their backs and produce contraction of the ligaments. It is a much better and safer operation than to resort to the pessary in cases in which you do not know what is inside.

DR. F. F. LAWRENCE, Columbus, Ohio—There is difference of opinion because we approach cases with a clinical rather than with a philosophic eye. Any operation or method based on sound philosophy will and must prove correct; and any operation based on false philosophy will and must prove faulty. Is the replacing of one pathologic condition by another sound philosophy? Do we ever find as a physiologic condition a fixed uterus? Is there ever a physiologic exception, other than the broad ligament, to the rule that the ligaments are merely guy-ropes which keep the uterus from tilting in one direction or another? If that be true, then the one factor to ensure success in removing the conditions which cause the retroversion or flexion is to first restore the tension of the broad ligament, giving the uterus support from above as it should have, and restore the natural support from below, whatever it may be. Many cases, if caught when descending, can be cured by electrical treatment by restoring the tone of the tissues. Put them to bed and keep them quiet. Pelvic massage has its place as much as any operation and should be given in these cases. It is much better than an operation which is finer in theory than in result.

DR. C. LESTER HALL, Kansas City, Mo.—While physiologic processes are referred to, I am surprised that nothing has been said of Nature's way of correcting these displacements. If these patients who come to me for such conditions are married I tell them frankly to become mothers. They become pregnant with the uterus in a good physiologic condition. A week or ten days after the child is born they are

put in the genupectoral position several times a day. The uterus is kept in position, the woman kept in bed for three or four weeks until the uterus has returned to its normal size and position, and they are cured women. I have done this repeatedly, and I believe the easiest way is the best, and that is the physiologic or Nature's way.

DR. A. PALMER DUDLEY, New York City—In pregnancies after ventral suspensions I have measured the ligament immediately after delivery and a week and two weeks afterward. I have also opened the abdomen and taken exact measurements in cases where an appendicitis or disease of the appendages required a second operation. Of my 269 cases—and in each, bear in mind, treatment was given first—I find that I did 99 ventral suspensions without a death, and following that I am sure I can recall to mind more than eight deliveries that I made myself, and I had no difficulty in having my patients go to full term. I do not denude the fundus, but take the fundus half way between the tubal entrances and pass two silkworm-gut sutures into the uterus, without touching the mucous membrane, and out through the abdominal wall completely through the skin. Then I scarify the top of the uterus, just as in vaccinating, let it come up loosely against the peritoneum of the anterior abdominal wall, first loosening the peritoneum a little on either side with my finger. The uterus remains in that position with the stitches in place for three weeks. Then the sutures are withdrawn and the peritoneum drops down to form a ligament and there is no chance for an intestinal obstruction, but it is a new urachus running from the abdominal wall to the top of the uterus and off to the base of the bladder. The ligament is triangular in shape. Ventral fixation is a pernicious thing and should never be done, from the obstetric standpoint, bear in mind, that the uterus does not rise perpendicularly toward the diaphragm, but it comes forward, the abdominal muscles distend and the fundus of the uterus is not more than two inches above the fixation point when the woman is ready for delivery.

DR. L. H. DUNNING—We should more frequently consider the treatment of disease from all its bearings. We have considered the operative treatment too frequently to the exclusion of all other forms of treatment. I have seldom found any one in any of the meetings I have attended who would consider anything but operative treatment. I would not, in my own family, trust a man who had nothing in his head but operation. I like to operate when it is necessary, but I abhor an operation when it is not necessary. I have done all the various operations, as most of you have, a good many times. My work with ventral suspension has yielded the best results. I have been at a loss to understand how so many cases of obstruction of the bowels occur in the hands of others. I never had a case of obstruction, and I know of a dozen women who were confined without difficulty, although I know that obstruction will occur without any assignable cause. I know of one case of kinking of the bowel from adhesions of the intestine to the anterior wall of the abdomen. There was a little sepsis, the bowel stuck there and obstruction occurred. My method of ventral suspension agrees almost exactly with that of Dr. Dudley. I do not take my stitches out through the skin, however, although I put one silkworm-gut stitch between the other two and bring that one out on the skin. It accomplishes the same result. The middle stitch prevents the formation of two bands, which is important in these cases. I have never seen any unpleasant effects from this operation. There is free movement of the uterus with a band about one and a half to two and a half inches in length. Twice I have reopened the abdomen for other purposes and found a single band. I would put forward ventral suspension as one method for overcoming retroversion of the uterus when all other methods failed. I think Dr. Bovée will come back to ventral suspension after a while. I have been through the same experience from the beginning, only to drop one method after another. Dr. Ricketts condemned the pessary because he does not know what is inside. Does he open the abdomen of every case that comes to him? That is what we must conclude from

what he said. That is a perfect fallacy. What Dr. Hall said, according to my experience, is true. I wish to call your attention again to Dr. Munde's article,¹ in which he went all over this ground and showed that only 5 per cent. of cases were cured when they become chronic by tampons and pessaries, but that a large percentage of cases were cured after confinement by the posture method, by the exercise treatment and the use of tampons and pessaries in suitable cases.

DR. WESLEY BOVÉE—Some use sutures through the skin in ventral suspension. I never put a suture through the skin in any operation; I am opposed to it. We forget an element here, the uterosacral ligaments. They have a tendency to drag the cervix backward and upward. When abnormally attached they have a tendency to drag the fundus backward. Another element is whether this attachment is abnormally high, or whether the anterior vaginal wall is abnormally low when it draws the cervix forward. What is the use of ventral suspension in such a case? The uterus stands straight up; it is allowed to come forward against the abdominal wall; intraperitoneal pressure pushes it down. I mention one case in my paper where the ovaries had been removed and in which I did a ventral suspension. Dr. Edebohl removed the uterus afterward and found the cervix protruding from the vulva and the fundus still firmly fixed to the anterior abdominal wall. What is the use of a ventral suspension? Suppose after a tedious labor you have torn off these uterine supports and lost the supporting power. The only method of treating that case should be to correct the injury that is done. You must do that work before you will do successful work. If something else is needed do it. Treat everything that must be treated. I did not for one moment expect to be understood as saying that these operations were applicable to all cases. I treat many of these cases by the use of tonics, pessaries and massage. You can tell at the beginning whether you can do anything with such treatment. But you can not expect massage to do any good when the cervix is badly torn, or the perineum ruptured and these ligaments torn all to pieces. I put these women, not on their backs, but on their abdomens, so that the uterine fundi will drop forward. That is the same position I put them in after an operation on the uterosacral or round ligaments. I do not let the weight of the uterus drag on tissues I have sutured. I want the ligaments to be as lax as possible during healing. As to the postural treatment in cases following delivery, I agree in what has been said except that I would never feel it necessary to introduce my fingers into a woman's vagina within a week or ten days after delivery for purposes of reposition of the uterus; nor would I in the first week of labor put a woman in any position, such as the genupectoral, that taxes her already exhausted vitality. I would also fear the occurrence of embolism. These methods which I have suggested are in the line of physiologic repair, and are directly in opposition to the ventral suspension, which is unphysiologic.

EXERCISE AS A MODE OF TREATING DISEASES OF THE HEART.*

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Our knowledge of diseases of the heart is of comparatively recent date. It is true that Vesalius did much to make known the anatomy of the organ and that Harvey demonstrated its purpose or function. This much was learned in the sixteenth century, and during the following centuries contributions were made slowly to a knowledge of its pathology; but methods of physical diagnosis by which its pathologic states

could be recognized during life were not discovered until the end of the eighteenth and first quarter of the nineteenth centuries.

The opinions of former generations of medical men have not yet been outgrown by laymen, and many of the latter think that a permanent anatomic defect in the heart means sudden death, death which is especially apt to be caused by physical exertion. The fact that overexertion, either mental or physical, can cause dilatation, and, perhaps, fatal weakness, of the heart when it is defective, led to the prevalent opinion just expressed. Stokes, in the middle of the nineteenth century, was one of the first to register his disbelief in the danger of all exercise, and even faith in the curative effect of suitable kinds, for he wrote: "The symptoms of debility of the heart are often removable by a regulated course of gymnastics or by pedestrian exercise, even in mountainous countries, such as Switzerland or the highlands of Scotland or Ireland." As late as 1876, however, Rosenstein wrote of exercise: "It must be taken cautiously, and all severe exertion, such as mountain climbing, etc., should be strictly avoided; but it is just as injurious to condemn a patient with heart disease to perfect quiet." Between 1862 and 1872 Sutorburg of Stockholm and Zander described their experience in the treatment of cases of heart disease by gymnastics. In 1884 Oertel announced the results of his trials of more vigorous exercise, such as mountain climbing, and elaborated the mode of treatment which bears his name. Later Schott of Nauheim made known his method of treating these cases by "resistance gymnastics" and the carbonated, saline baths, whose curative power in such diseases had been made known earlier by Beneke. During the last thirty years massage has also been used for the treatment of heart diseases.

From this brief and rather fragmentary history of exercise as applied to the treatment of heart disease, it is seen that four forms: 1, Massage; 2, Swedish gymnastics; 3, mountain climbing, and, 4, resistance gymnastics, have been used. As advocated for the treatment of heart diseases, each form of exercise has one important factor in common, which is that exercise must be increased in severity very gradually and breathlessness must be avoided.

Valvular lesions of the heart rarely are corrected by subsequent changes in the valves, but a strong heart commonly will compensate for the valvular defect. Therefore, the prime indication for treatment in valvular disease of the heart is to make, and to maintain, a strong heart muscle. This evidently is also true when we have to do with degenerations or fatty infiltration of the heart or dilatation from any cause. It is well known that voluntary muscles atrophy and degenerate when they are unused or used little, and that they can be made to grow strong only by gradually, day by day, increasing the amount of work which they do. These statements are as applicable to the heart as to voluntary muscles. Moreover, as the latter may be greatly injured, even strained beyond repair by an unusual, sudden and excessive exertion, so may be the heart, and it is much oftener.

These well-known facts afford a logical basis for the employment of exercise in treating heart disease. Drugs, such as digitalis, may temporarily contract the organ when it is dilated, and strengthen it when it is weak. But permanent recovery of strength is only obtained by improving the nutrition of the heart and by relieving

1. Amer. Jour. of Obstet., 1888.

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it of excess of work. Both of these objects can be accomplished by judicious exercise of the voluntary muscles.

When the heart is weak or compensation is broken it beats rapidly, feebly and often irregularly. Each muscle fiber does not do its whole duty, but contracts imperfectly; therefore, the heart does not completely unburden itself. This is partly due to the weakness of the heart, and often also to the accumulation of blood in the viscus and consequent distension of it.

The effect of muscular exercise on a weak or dilated heart has been carefully studied during the last few years. The most striking effect is that often obtained when the heart is dilated, namely, rapid and very noticeable contraction of it. When the heart is weak and beating rapidly, but is not dilated, the effect is less striking, only a slightly slower and stronger beating being produced. Not infrequently the apex beat of a dilated heart will move an inch nearer the sternum during "resistance gymnastics," or a weak heart will beat from 5 to 15 beats less per minute.

These results are undoubtedly effected by the extra amount of blood which is drawn into the muscles when they are used. Consequently the heart is depleted and arterial pressure is lowered, so that it works against less resistance.

Unquestionably, the first or immediate effect of muscular work is to increase blood pressure, but this rise is temporary and is followed by a more persistent fall, which is caused by the dilatation of arterioles in the hard-used muscles, a dilatation necessitated by their demand for food and for more rapid removal of waste by irrigation. The primary increase of pressure is in proportion to the degree of exertion, but the secondary fall is more dependent on the duration of muscular movements, and the number and size of muscles used. It is, therefore, possible by trivial exertion to avoid an increase of pressure, and by using many of the large muscles to ultimately lower pressure very greatly. This is the reason for what may be called the first rule in applying exercise to the relief or cure of heart diseases—that is, *the muscular effort must be slight, but numerous large muscles must be used.*

Mitchell, Brunton and others have shown that massage produces an increased flow of blood through the voluntary muscles, and the effect of athletics on blood pressure has been studied by Ray, Allbutt, Oliver, Mose and others with, among other conclusions, the discovery that the average blood pressure of athletes is habitually lower than of those who lead a sedentary life.

The walls of blood vessels deteriorated by advancing years, syphilis, alcohol or lead, respond less readily when the muscles which they supply demand more blood than they should. But as atheromatous and degenerative changes are often chiefly confined to visceral arteries, massage and resistance exercises prove very helpful in certain cases, and disappointing in those in which the arteries generally are involved.

Although the aorta and left ventricle can be unburdened by exercise, it might be supposed that the veins and the right side of the heart would soon be overdistended. This will take place if movements are made with rapidity and the exertion is considerable, but when the movements are made slowly and the exertion is slight it does not happen. Much of the serum which flows into the moving muscles is diverted into the lymphatics, and the movement of lymph is, therefore, greatly accelerated. The more rapid bathing of the muscle fibers with fresh lymph improves their nutrition, and the more rapid flow

of lymph hastens the removal of waste products. Just as in these ways the voluntary muscles are made stronger, so the heart is, because when unburdened it contracts more forcefully, which insures a more generous supply of blood through its own arteries and lymphatics.

Undoubtedly, deep respiratory movements which exercise insures play an important part in improving nutrition, for not only is the blood more thoroughly oxygenated by them, but the fully distended lungs hold more of it, and, therefore, unload the right ventricle. The variations in intrathoracic pressure, produced by deep inhalations and complete exhalations, help greatly the onward flow of venous blood and lymph. They may also aid materially the filling and emptying of the cavities of the heart. Therefore, the second rule for the conduct of exercise for the relief of cardiac disease is naturally that *respiration must be deepened, but not hurried*, for quick, irregular and imperfect respiratory movements will lessen the variations in intrathoracic pressure, impede venous and lymphatic circulations.

The third rule is that *the exercise must be graduated*. At first only the lightest should be used, and very gradually it must be increased in vigor, and it must be adapted to each case. Under no circumstances must breathing or the heart be hurried.

Massage and resistance gymnastics are the gentlest forms of exercise, and should be first used in all cases. The latter require less training than do the former, and can be best directed by a physician. They therefore seem to me most generally useful. They consist in slow flexion and extension of the hands, then of the forearm and later of the whole arm. Similar movements of the feet and legs, of the head and of the body at the hips should follow those of the hands and arms. The arms, legs and body also may be slowly rotated, and the latter may be bent to the right and left, as well as forward and backward. These movements should be repeated for from eight to fifteen minutes. At first no resistance need be made, but after the two or three first seances a trifling resistance to each movement can be interposed by the nurse or physician. This resistance can be gradually increased day by day, but never should be enough to increase the rapidity of the heart or respiration. When a moderate degree of resistance is well tolerated, patients can be taught to resist movements of flexion by the extensor muscles or of extension by the flexors.

Hill climbing is not adapted to cases of very considerable weakness and dilation, such as can be treated by massage and resistance gymnastics. It is, however, a mode of exercise which is particularly adapted to those who have first been trained by the other method, or who are fairly strong at the start. Deep breathing is sure to be caused by hill climbing, and undoubtedly is a most important factor in bringing about improvement. Moreover, a more rapid loss of fluid by evaporation from both lungs and skin is certain to take place. However, the distance walked, the grade climbed, the frequency of the stops for rest, must be carefully adapted to each person. So soon as the heart is felt to thump or the breathing to shorten, a stop should be made, and deep breaths and a rest taken.

Only those who have had personal experience in training people, either with or without heart weakness, can appreciate fully the effect of graduated exercise.

Although resistance gymnastics are only one element of the Schott treatment, the carbonated saline bath being the other, by abundant experience I have learned that the exercise alone will accomplish the desired purpose,

although undoubtedly the baths are useful. So, too, hill climbing is only one element of the Oertel treatment, a restriction of food and drink being the other; both of these last are only applicable to those patients who are obese, or at least are well filled out with fat.

All forms of heart disease, accompanied by muscular weakness, with or without dilatation, can be treated with hopefulness by exercise. The best results are obtained in cases of dilatation which are due to high arterial pressure or physical exertion, and in which there is no, or trifling, degeneration. In the early stage of muscular degeneration recovery can be effected. If, however, there is much degeneration or a cause for its increase, only temporary improvement will be obtained.

For the treatment of obesity and fatty infiltration of the heart, Oertel's treatment is particularly well adapted, although other kinds of graduated gymnastics, with a suitable regulation of diet, will also give good results.

Resistance gymnastics and massage are adapted, I believe, to a group of cases for which I have not seen them advised. I refer to convalescents from acute endocarditis, whether from rheumatism or other infection. All practitioners have observed frequently a break in compensation soon after patients begin to move about. This is because the heart has not had the time or the training necessary to enable it to compensate for the valvular defect, and a small amount of exertion strains and dilates it. Such patients should be kept in bed for at least two weeks after the acute infection which causes the endocarditis is over. During the last half of this time, resistance exercise or the gentlest massage will greatly help promptly to effect compensation. This treatment should, if possible, be continued for some weeks longer, and the amount of walking, stair climbing, etc., should be carefully regulated.

Of chronic valvular diseases the mitral oftenest respond to gymnastics, but numerous cases will be met in which compensation can not be restored by any treatment. Aortic valvular affections are less certain to be improved, for breaks in compensation occur in them frequently after very considerable hypertrophy has taken place, and when a little more can not afford relief.

Although when the heart degenerates or grows weak because of atheromatous arteries a perfect recovery is rarely effected, a temporary improvement often is. Even angina pectoris is not a contraindication. I have seen several cases of the latter disease very greatly improved by resistance gymnastics.

I do not wish, while advocating exercise for the treatment of heart disease, to leave the impression that drugs are not sometimes needed, or that it will certainly effect recovery. But it is a mode of treatment that should not be neglected and one that is essential in many instances.

DISCUSSION.

DR. W. W. TOMPKINS, Charleston, W. Va.—I agree substantially with all Dr. Davis has said. I believe we are sometimes a little derelict in our duty in not exercising sufficient care to prevent the patient from taking too much exercise. I will mention two cases which I lost. One patient was 48 years of age with a well-marked organic heart lesion, and I advised against exercise and had him change his office and sleeping quarters from the upstairs to the ground floor. This patient got along very well, and I had cautioned him never to take any severe physical exercise. One day his son called him to assist in turning a skiff, and while doing so he dropped dead. In the other case I had advised against exercise, but one day he asked permission to play baseball. I advised against it,

but he played anyway; as he ran around the bases he dropped dead on the third base. Statistics given us by Oertel of Germany and Zivink of Australia certainly show that under certain circumstances great benefit is derived from moderate exercise. In addition to the medical treatment it is probable that most of these cases should take some form of iron. How often do we find cases of heart diseases suffering from anemia? I believe in the majority of instances a certain amount of exercise is advisable, but in some instances I believe that exercise should be only passive, such as riding about in sunlight and air, and when we give this advice we should add a caution against overexertion.

DR. SOLOMON SOLIS-COEN, Philadelphia—We agree that the indications are largely governed by the condition of function. The endeavor must be to equalize function—to restore the balance of function. When there is depression of a function it may be exalted or other functions may be depressed to its level as seems most wise in the individual case; and similarly overexalted functions may be depressed or normal functions temporarily exalted. In cardiac disease, as a rule, we are compelled to pay more attention to the depression of normal function to the level of the impaired heart than to exaltation of cardiac function, hence we caution against overexertion. In the discussion on diabetes it was thought that physicians had gone too far in restricting the carbohydrate diet and perhaps we have also gone too far in restricting exercise in cases of heart lesions. Of the value of depressing the general function to the level of the impaired function there can be no doubt, but at the same time the endeavor should be made to bring up impaired function to the highest level consistent with maintenance of life.

DR. N. S. DAVIS, JR.—There is no doubt that overexertion, or exertion made suddenly and considerable in amount, will often cause a fatal result in heart disease; and in those without heart disease this may cause a temporary condition which will produce illness for the time being. On the other hand, take the cases of heart lesion referred to by Dr. Tompkins; if those individuals had been taught by suitable exercise to understand just how much they could do and how much they could not do, the one would not have played baseball and the other would not have attempted to lift the skiff. Furthermore, if the heart had been properly exercised the probabilities are it would have been able to withstand a certain amount of extra exertion—I do not mean the amount put on it in these two cases. There is no doubt that a weakened organ must be carefully watched, but it can often be made stronger by suitably arranged exercises. Moreover, by these exercises the patient will learn to know just about how much exercise he can take and how to regulate that exercise. This is a very important result of such treatment.

THE FUTURE OF PREVENTIVE MEDICINE.*

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Among the many subjects claiming the attention of this Association, none can be more important to the welfare of humanity than that of preventive medicine. The term implies an organized effort by the medical profession to protect mankind from attacks of those recognized causes of disease and death that can be avoided or destroyed. To avoid or destroy the cause is not only to escape the disease, but also to prevent the generation of countless germs fraught with danger. The list of pathogenic organisms whose appearance, characteristics and behavior are sufficiently known to enable us to avoid or destroy them, contains the names of the germs whose invasion of the human system re-

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sults in the diseases most widespread and fatal, the scourges to which five deaths out of every ten may be traced.

Think of the results in one decade were the death rate diminished by 50 per cent.; of the families now bereaved that would remain unbroken; of the busy brains and hands now stilled that would be adding their quota to the wealth and comfort of the world. Yet that such a beneficent result is within the reach of organized effort a consideration of the facts below enumerated will demonstrate. Think of pulmonary tuberculosis: About two people out of every hundred are infected with tuberculosis. Out of every seven deaths, one is from consumption. Over one hundred and fifty thousand people die of it every year in the United States. The cause of this "Great White Plague" is well known. Its presence in a sufferer's tissues is readily recognized, and the precautions, which would prevent the escape of a single germ from this source of contagion are few, simple and easily adopted. Yet all over our country the sun shines daily on thousands of perambulating incubators of death, each one of whom, during the hours of daylight, distributes around him germs enough to infect every man, woman and child in the republic. All this can be remedied only by preventive medicine. Think of typhoid fever, of which it might be said that every case is the result of criminal ignorance, or still more criminal carelessness. Think of smallpox, and Jenner, but do not consider that victory complete while thousands yet deny the efficacy of vaccination, or while men like Lord Kelvin, purest gems of intellect, but with one faulty facet, deny its usefulness and support their position with arguments too puerile to be worthy of respect. Think of pneumonia, with a death roll next to that of consumption, with a known pathogenic bacterium, but without, as yet, any general effort to limit the germs to the person of the patient. And remember the most widely distributed of all diseases, malaria, with its recently discovered possibilities of prophylaxis; the equally marvelous facility with which yellow fever can be corralled and its ravages stayed; and the almost incredible triumph of sanitation over bubonic plague in its subterranean stronghold under San Francisco.

Though much has been accomplished, it is only the beginning. It merely points the way to the final goal, which should be nothing less than the absolute eradication of recognizable infectious germs. The causes of most of the diseases above mentioned, and of many others unenumerated, can be, and should be, swept from the face of the earth. Hydrophobia is almost unknown in North Germany. The reason is obvious. All dogs are muzzled; if one runs mad the poison dies with him. For yellow fever and malarial diseases the mosquito bar is analogous to the muzzle for hydrophobia. Infection can be prevented from escaping. Against every germ there can be found a means of protection.

The means necessary to accomplish the desired end are already recognized in many instances. It is a most important element of any enterprise to know what is needed. The writer believes that, in this instance, what is needed is dissemination of knowledge that will enable the people, lay and professional, to understand and apply the principles of sanitation, antisepsis and asepsis, in order to avoid or destroy the germs of disease. No organization, however worthy or sincere, can hope to accomplish any general or national object unless supported by an enlightened public opinion. In this mat-

ter, a mere national coöperation would not suffice. To rid the world of consumption and typhoid requires international coöperation, only to be hoped for when founded on international enlightenment. To eradicate the germs of those diseases from our country alone would necessitate a perpetual and almost impossible quarantine against reinfection. Much easier than this would it be to render the movement international from the beginning.

We have before us an object lesson of great value. When the Woman's Christian Temperance Union was organized it was soon realized that the strength of such a movement must reside in an educated public opinion. To meet this indication abundant literature was distributed and able lecturers provided to arouse public interest. The press was utilized to the utmost possible extent. The most effectual and permanent measure, however, was the introduction of text-books on physiology, written with a special view to inculcating the society's peculiar views concerning alcoholic beverages, into the public schools. By exerting an organized influence on school boards, legislatures and public officials, an influence backed by an appreciable number of political votes, they forced these physiologies into the curriculums of a large proportion of our public schools. Few publishers of school books could now afford to risk the boycott on all their publications that might follow their issue of a text-book on physiology which differed in its treatment of the effects of alcohol from the standards prescribed by the W. C. T. U.

What has been accomplished by an organization whose object is almost an impossibility, an object, moreover, that is hotly opposed by perhaps a majority of mankind, may surely be equaled by a similarly organized body whose object will meet with universal sympathy and approval; for every one must approve of an effort to banish disease and suffering.

Assuming, then, that the object is worthy, and within the bounds of possibility, the next question is, what step should be taken for its accomplishment? It seems to the writer that this Association should appoint a special committee to investigate the matter, inquire into all the possibilities, and report at the next session. This committee should be instructed to decide whether it would be better to create a special bureau within the American Medical Association, having international connection with similar bureaus to be created by the national medical organizations of other countries in order to unify the work; or to organize an independent association under some such title as "The International Sanitary Union," to which all sympathizers, male or female, young or old, lay or professional, would be eligible as members, making it a popular movement from the beginning. In case the former plan is preferred, some kind of membership should be provided for the laity. The church, the educational associations, and, above all, the boundless influence of woman, must be enlisted if success is to be assured.

The three indispensable conditions are: (1) International sanitary organization; (2) international sanitary education; (3) international sanitary legislation. Organization, though the first necessity, is merely a means to the great end, enlightenment.

The root of the whole matter is education. Organization can provide lecturers, newspaper articles, essays, pamphlets, societies, badges and all the paraphernalia for rousing public interest in every civilized land; but far more powerful in its effects would be a chapter on

"The Prevention of Disease" in every school text-book on physiology, in every printed language the world over. In every school grade, from the lowest to the highest, the plain, untechnical statement of the facts would instill into the minds of rising generations the principles that would insure intelligent coöperation with all our efforts for the benefit of humanity.

All this literature for text-books, whether in English, French, German, Spanish, Italian, Russian or Japanese, should bear the stamp of their national medical organizations, and would, therefore, be authoritative. Educated thus from early youth in the simpler and fundamental truths of pathology, the coming generations would be armed against fallacious theories of disease, to say nothing of the effect such enlightenment would have on the fads continually springing up to impose on the people. One who is posted concerning the Klebs-Loeffler bacillus and its toxin, will hardly be tempted to rely on prayer alone for the rescue of a child stricken with diphtheria.

Meanwhile there is no necessity to wait for another session before beginning the work. The seed must be cast on the waters with a liberal hand, and the sooner the better. The officers of the committee to be appointed, or at least the secretary, should be provided with sufficient funds to enable them to enter into correspondence with national medical organizations in other lands, and to distribute appropriate literature among the clergy and prominent educators. Sample literature, proposed to be inserted in text-books, for the different school grades, should be submitted to prominent educators for suggestions or approval. Our publishing facilities at Chicago will enable us to do most of the necessary printing at nominal cost. The daily press should be judiciously used to arouse and maintain the interest of the public, and the ground so carefully and thoroughly prepared that when, at our next meeting, the final form and title of the effort is accepted and announced, the people will be ripe for action.

The effort is a noble one, worthy of the grand organization under whose auspices the writer hopes to see it inaugurated. Perhaps there may be opposition, though it is hard to say why there should be; but the right is greater than any man, however exalted, and will surely prevail. Sooner or later, the conditions herein suggested will be put into effective operation. There is not a single reason why the first step should not be taken at this session of the Association. In twenty years from now we will be no more ready for that first step than we are to-day. If we take it now, twenty years will find us far on the road to the goal, with some diseases eradicated, some diminished, and all under control; with a citizenship too enlightened to be duped by the Eddys and Dowies, too wise to allow helpless or careless sufferers to scatter broadcast the seeds of death. When preventive medicine has accomplished this task typhoid will be no more, malaria a curiosity, yellow fever a matter only of history, and the few accidental consumptives will bask in comfort in government sanatoriums among the sheltered valleys of the Rocky Mountains; while mankind at large will no longer look with dread on three-score and ten years, but will hopefully regard the century mark as about the proper thing. Let no thinking man dismiss this matter as visionary and impracticable. The necessary steps are plain and possible, and will inevitably lead to success if we rise to the level of our opportunity, and earnestly, without haste and without rest, pursue this, the true and final goal of preventive medicine.

This paper is brief because it deals only with fundamental principles. Matters of detail are hardly mentioned. The amount of ground to be covered at the beginning, whether the germs of one, two or three diseases; the varieties of appeal required, some for the scientific, others for the uneducated but practical, and still others for the enthusiasts, all these and many more matters are left for the consideration of the men into whose hands the subject may be confided. The field is wide. There is work for a lifetime. But to what loftier, nobler cause could a man consecrate his powers? No other profession or calling can vie with that of medicine in altruistic devotion to the welfare of humanity. This is the summit of our efforts, the *ne plus ultra* beyond which there lies no further possibility. Let us secure to our Association the glory of the attempt.

SPECIAL INFLUENCES OF THE HIGH ALTITUDES ON THE NOSE AND THROAT.*

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The subject has, unfortunately, to be considered largely from the standpoint of hypothesis and theory, as at present the facts do not admit of absolute proof. Personally, as a physician without numerous hospital cases to study or a physiologic laboratory to experiment in, I find it impossible to prove the truth of the theories I may entertain in this matter. Though my opportunities for observing these phenomena have been comparatively few at any one time, they have extended over some twenty-eight years of practice in Colorado, and, therefore, have the value of single spies, though they can not have the weight of battalions.

In rhinologic practice in Colorado one is struck with the fact that patients arriving from sea level often complain of nasal symptoms of which they had not been conscious at home. The reasons for this undoubted fact appear to me as follows: In the first place, the altitude causes a marked reduction of atmospheric pressure on all parts of the body, and consequently a greater fullness of the blood vessels of the skin and of the mucous membranes which are exposed to the air. As a result, there is a physiologic congestion of the blood vessels of the nasal cavities, especially of the erectile tissue of the turbinate bodies. Under these conditions it often happens that when a person is transported from sea level to a high altitude, in whom there exists some narrowing of the nasal passages, due to the presence of a septal deflection or spur, or to an hypertrophied turbinate, or a neoplasm, that the increase of the stenosis caused by this physiologic engorgement of the proximate tissues makes him conscious of a nasal deficiency, of which he may have been previously entirely ignorant. This person then feels his nose stopped up and perhaps suffers also from the induced nasal pressure and so passes under the observation of the rhinologist.

As a consequence of this stenosis there is produced a local suction effect as the air passes in and out. While the entire corporeal surface is placed as it were under a cupping glass, the area of stenosis is under a limited but much more powerful cupping glass.

Thus occur local conditions which establish a catarrh, unless the equalization of the general blood pressure, which takes place in a few weeks, that is, after accli-

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matization is established, causes a sufficient subsidence of the local turgescence, or unless relief is effected by treatment. But if the catarrh is unchecked there will ensue a complete and permanent stenosis from a chronic inflammation and enlargement of the proximate turbinate body.

Thus far we have dealt only with the influence of the rarefaction of the air, but there are other influences. The air at an altitude is not only rarefied, but it is exceedingly dry, so that the nasal mucous membrane is called on to yield up moisture to it much more largely and rapidly than at sea level. Consequently the normal mucoid fluid, which should bathe and lubricate the nasal tract, becomes inspissated, forming crusts on the surface and so giving rise to further obstruction, and culture mediums for germs are established. Thus pus is formed and ulcerations appear.

With the dryness of the air comes dust; not dirty but irritating dust, largely composed of minute sharp particles of granitic detritus, of mica, etc. This increases the local inflammation.

Another climatic factor always present in high climates is the wide range and the rapid changes of temperature between day and night, and between sunshine and shadow. In most localities there is also a constant movement of air and shifting of the wind, and on exposed plateaus or in mountain passes, high winds. Owing to the stenosis of one nostril brought about in this way, there develops a hypertrophic catarrh of the other nostril as a result of its having to work double tides.

Behind the influence of the climate on the circulation and exosmosis of the nasal mucous membrane, there is its direct one on the nervous supply of the nose. In the first place the climate stimulates the energy of the whole nervous system and so makes the nasal nervous mechanism more normal and more active, and also more sensitive in its response to stimuli. The overwork and fatigue brought about by the ineffectual efforts to overcome the physiologic and pathologic conditions described, result in more or less vasomotor paralysis, thus the temporary congestion becomes chronic and is greater than before. As a consequence of the resulting nasal stenosis, mouth breathing and catarrh of the nasopharyngeal and laryngeal membranes usually develop.

We have briefly dwelt on the injurious influences of the climate on certain pathologic conditions. Now, let us consider what can be done to mitigate them. Topical treatment by sprays, ointments or direct applications to modify the local congestions may in slight cases remove them, but generally such remedies are only of temporary benefit. Cauterization of a turbinate may sometimes be effective, but in many cases permanent relief will only come after surgical procedure has removed the structural causes of the stenosis.

When the catarrhal change in the membrane is slight after operation the catarrh will disappear, but when it is extreme, the cases improve much more rapidly and surely in a more moist atmosphere and on a lower level. Such cases after a time may return to the high ground and keep well.

In most cases in which there are local causes for a catarrh, there are also systemic disorders which aggravate it. When these disorders are of a nature which a high climate tends to relieve, there is naturally a more rapid and sure cure of the catarrh after appropriate local measures have been carried out, than would have ensued from similar local treatment at sea level.

Atrophic rhinitis is, in my opinion, usually made worse by a high climate, in which view I have the support of my colleague, Dr. Gildea, but, on the other hand, so high an authority as Dr. Levy takes the opposite view. Undoubtedly, the victims of this disease are often benefited in their general health by the tonic effects of the climate. But it stands to reason that with their wide open noses the dry rarefied air taxes to the utmost their defective capacity for moistening and warming the incoming air and far more than does a moist atmosphere with a high barometric pressure.

I have also observed that those cases which have previously had portions of the turbinates or septum too freely removed, suffer much more discomfort in high than in low climates.

It has been said that Colorado cures those who come with catarrh and induces it in those who come without it. The apparent reason for this statement is that undoubtedly a flabby weeping nasal membrane is much benefited, while a dry, irritable membrane suffers because its secretion which was sufficient at sea level is too scanty in a high climate.

CONCLUSIONS.

To sum up it may be said that:

1. Surgical measures are often demanded at an altitude in cases which had previously gotten along comfortably without it at sea level.

2. The results of such procedure are at least as satisfactory as elsewhere, but more than usual care must be taken to save all secreting tissue.

3. The local symptoms of atrophic rhinitis are aggravated, though the constitutional conditions are often markedly improved.

4. The moist form of hypertrophic rhinitis is much improved.

In disease of the accessory sinuses, if the appropriate relief is given, the affected surfaces dry up and heal more rapidly and surely than at sea level. In this respect the result is the same as is well known to be the case in the healing of other wounds and ulcerations.

With regard to surgical cases treated at an altitude, nasal or otherwise, it is undoubtedly true that they do better and require less postoperative care than at a low level.

There appears also to be an absence of the danger of infection to the wounds inflicted on tuberculous cases, which is usually so much dreaded elsewhere.

Thus far our discussion has been limited to the influence of altitude on the nose. We will now briefly consider its effects on the throat. In the first place it may be said that in most instances what affects the nose also affects the throat. This applies to disorders whether of local or systemic origin. The limits of this paper do not permit a full discussion of the influence of the climate on tubercular laryngitis, but it may be here stated that the experience of the writer and most of his colleagues is that it is decidedly favorable. Of course, it is recognized that tubercular laryngitis is for the most part an expression of a tendency of the tuberculosis to spread, and that the great majority of the cases die from their pulmonary tuberculosis, yet the narrow margin of recoveries is less narrow when the cases are treated in a high altitude, and that local treatment is much more successful than at sea level.

The tonic and stimulating effects of the climate, both direct and indirect, are as markedly beneficial to local

and general anemia as they are irritating to plethoric and hyperemic conditions.

DISCUSSION.

DR. MELVILLE BLACK, Denver.—I would be inclined to consider the dryness of the climate the most important in its effects. In the beginning the immediate effect is very largely that of reduced atmospheric pressure, producing temporarily a sort of vasomotor paresis; at least the patient has the symptoms of such in a mild form. This passes off after a few weeks. Our relative humidity is something like 49 per cent. The relative humidity in New York is 75 per cent.; San Francisco, 75 per cent.; Portland, Ore., 80 per cent. So that you see the relative humidity at sea level is about double that of Colorado. When we say the average is 49 per cent., that does not represent the humidity as it usually is. The morning and evening humidity is greater than that during the day, but it brings up the figures of the statistics. At noon it probably would usually run not higher than 20 or 25 per cent. Therefore, in Colorado the nose has to do fully double the work required at sea level in order to bring the inspired air up to a point of saturation. The prevalent complaint of all of our residents is of dryness. When we come down to New Orleans we find that our noses feel unusually comfortable. I think Dr. Solly will bear me out in this. We have hypertrophic conditions as the result of the increased function, followed by a form of mild sclerosis. Septal deviations and other conditions, which would naturally contribute to make it more impossible for the nose to perform its normal functions, require operation more in Colorado than elsewhere. I do not think Dr. Solly or myself would like the impression to go out that we have a climate that is particularly prolific in the production of "catarrh." I have never seen anything serious from it. I do not believe our climate will help dry nose and middle-ear conditions. When patients are to be sent to Colorado for otitis media, catarrhalis chronica these factors should be considered.

DR. H. W. LOEB, St. Louis—One feature of the paper is of especial moment to me, coming so soon after the rather unequivocal statement made by Levy at Washington last year, that laryngeal tuberculosis is improved in Colorado. The fact that the patient has laryngeal tuberculosis should not militate against sending him to Colorado. Until last year my practice has been to tell such patients that nothing in the way of hope is offered by Colorado or any other climate after the larynx is affected. This coincides with what some of the German authors say on the matter. But since last year it has been my practice to send the cases of laryngeal tuberculosis to Colorado. The Colorado members of our specialty feel that in Colorado there is some hope for these patients.

DR. SARGENT F. SNOW, Syracuse, N. Y.—I now find it unnecessary to treat my cases of laryngeal tuberculosis locally if the pulmonary conditions are urgent, but immediately send them where they get dry pure air. If they are in an early stage, so far as the pulmonary condition is concerned, I treat them locally for a while. I have sent to the Adirondacks five cases in which there were marked ulcerations and infiltrations of the larynx, and they have all healed up perfectly and have good restoration of function. In cases with the peculiar hard spasmodic cough, an examination of the vault of the pharynx will show a granulated condition, sometimes an intensely irritated area, on which crusts form, and if this be treated with applications of nitrate of silver, 40 grs. to the ounce, we give them very great relief. But I do not think we are justified in keeping these patients in their home environments for local treatment. Get them as soon as possible into higher and drier climates. I feel sure that 2,000 feet is a better altitude than 500, but I have had only a limited experience with altitudes greater than 2,000 feet.

DR. S. E. SOLLY, Colorado Springs—We are very firmly impressed by the remarkable results we get in Colorado, particularly when we have to use operative measures in the larynx and throat, which we find can be carried on there with much less risk and with better results than are usually ob-

tained at sea level. Moreover, there is apparently much less danger of a laryngeal wound becoming infected by tuberculous sputum passing over it.

ARRESTED TUBERCULOSIS.

SUBSEQUENT HISTORIES OF SEVENTY-NINE ARRESTED CASES TREATED AT THE SHARON SANITARIUM FROM 1891 TO 1902.*

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BOSTON.

Four years ago I had the pleasure of giving the subsequent histories of thirty-four "arrested" cases of pulmonary disease treated at the Sharon Sanitarium from 1891 up to 1899.¹ I will not apologize for bringing up the subject again, for all will agree that it is the after-histories of such cases which prove the efficacy or otherwise of methods which are now so prominently before the public.

Let me again cite the fact that these results have been obtained in a climate thought to be most unfavorable for consumptives, not far from the sea-coast and at the insignificant altitude of between 200 and 300 feet only above sea-level. In these latter particulars the Sharon Sanitarium was for several years unique. During recent years, Dr. Millet's sanatorium at East Bridgewater has been built with similar conditions, although it is intended for patients who are of a more well-to-do class than those at Sharon, where only patients of limited means are received. The State Sanatorium at Rutland, opened in 1898, has an elevation of 1,100 feet, and is fifty miles from the sea.

Again let me refer to my use, up to the present time, of the term "arrested," which has included all those cases in which abnormal outward symptoms have disappeared, many of them having justified the more favorable terms used by some authorities, "apparently cured" or "cured," at the time of discharge.

Since my last paper, the institution has been enlarged from the capacity of nine to twenty-one beds.

The total number of cases discharged since the opening of the institution in February, 1891, up to April 1, 1902, is 182. Five of these remained but a few days, and were not under treatment, and 13 were cases of asthma or simple bronchitis; therefore, 18 are not considered in the results.

In tabulating the remaining 164 cases which are considered, I have allowed a year to elapse since the last one of the number was discharged.

Seventy-nine of these 164 cases were recorded as "arrested," a percentage of 48.17+ of all the phthisical cases.

Of these 79 cases, which include those mentioned in my report of four years ago, 12, or 15.2 per cent., have died since leaving the institution, after varying intervals of comparative health.

In my previous report, 6 out of the 34 "arrested" cases had died. In that paper, I gave the probable reasons for the relapse and explained that in one the cause of death was from shock during some uterine operation, no trace of previous pulmonary disease having been noticed by the attending physician previous to the patient's

* Read before the American Climatological Association.

1. Subsequent Histories of Arrested Cases of Phthisis Treated at the Sharon Sanitarium. Boston Med. and Surg. Jour., June 22, 1899. Trans. Amer. Climatological Assn., 1899.

TABLES OF CASES OF

Case.	Occupation.	Entered.	Stay in San.	Diagnosis.	History.	Hemoptysis.
1 1. M. S. . . .	Typewriter. . . .	2. 16, 1891	4 months.	Adv. ph. . . .	Run down 5 years; cough; sweats; ph. family history	..
2 3. A. P. E. . .	Teacher.	3. 31, "	5 "	Ph.	Ph. history on father's side; cough 8 months; sweats and dyspnea	+
3 4. A. McD. . .	Housework. . . .	5. 27, "	2½ "	Incip. ph. . . .	"Throat irritation" 4 to 5 years.	?
4 9. J. W. . . .		6. 21, "	3 "	Pulmonary and laryngeal tbc.	Cough and hoarseness for a year.	?
5 10. I. W. S. . .		7. 7, "	12 "	Incip. ph. . . .	Mother died of ph.; cough 9 months; dyspnea	+
6 20. N. M. B. . .		10. 6, "	6 "	" "	Cough 18 months; pain on r.	0
7 24. G. E. M. . .	Box factory. . . .	11. 28, "	4 "	" "	Mother had (?) ph.; cough 2 years, off and on	+
8 27. J. A. McD. .	Tailoress.	4. 13, 1892	5½ "	" "	Ph. on mother's side; hemoptysis three weeks before; dyspnea	+
9 28. M. L. L. . .	Housework. . . .	4. 13, "	5½ "	" "	Pain between shoulders 1 year; cough 1 month.	?
10 31. A. R. L. . .		5. 31, "	12½ "	" "	Ph. marked in family history; cough 1 month.	+
11 33. L. A. . . .		7. 23, "	23 "	" "	Cough 1 year; dyspnea; sweats.	+
12 36. L. H. . . .	Bookkeeper. . . .	10. 4, "	32 "	" "	Mother d. of ph.; four of mother's family of ph.; hemoptysis 8 weeks before.	+
13 37. L. McL. . .	Dressmaker. . . .	10. 8, "	4 "	" "	Bronchitis 9 years before; poorly since; cough 1 year.	0
14 41. F. A. B. . .		1. 14, 1893	11 "	Ph.	Ph. on mother's side; cough 6 months; dyspnea	+
15 42. S. C. . . .		1. 25, "	21 "	Incip. ph. . . .	Sister d. of ph.; cough 6 months; pain r.	..
16 49. H. Q. . . .	"	7. 27, "	14 "	" "	Two brothers and two sisters d. of ph.; told 5 years before she would not get well of ph.	+
17 50. M. M. S. . .	Saleswoman	10. 25, "	5 "	" "	Slight cough over 1 year; hemoptysis	+
18 51. M. W. . . .	Housework. . . .	1. 31, 1894	11 "	Ph.	Mother d. of ph.; pneumonia 4 years before with pain since; cough 18 months.	+
19 53. R. B. . . .	"	5. 14, "	13 "	Incip. ph. . . .	One brother d. of ph.; 11 brothers of father d. of ph.; cough and pain 9 years.	0
20 59. E. V. M. . .		7. 30, "	21 "	" "	Mother d. of ph. and 1 sister; cough 2 years	+
21 63. M. J. T. . .		11. 8, "	2½ "	" "	One aunt d. of ph.; cough 2½ months; sweats	0
22 64. L. E. W. . .	Dressmaker	1. 2, 1895	4 "	Anemia. incip. ph. . . .	Two uncles and 1 aunt d. of ph.; "typhoid" 6 years before with slight cough since.	0
23 65. H. K. . . .		1. 8, "	4 "	Incip. ph. . . .	Run down 18 months; occasional cough.	0
24 68. D. S. . . .		5. 5, "	17 "	Ph.	Cough off and on 3 years.	0
25 79. J. C. . . .	Housewife	4. 30, 1896	3 "	Incip. ph. . . .	Three of father's family d. of ph.; bronchitis 18 months before with occasional cough since.	0
26 80. M. B. . . .	Attendant.	5. 8, "	13 "	" "	Cough 4 months.	+
27 81. B. M. . . .	Cashier.	5. 25, "	15½ "	" "	Father, mother and 2 brothers d. of ph.; cough off and on 10 months; — esp. + 3 months.	0
28 82. A. G. C. . .	Housework. . . .	6. 2, "	1½ "	Anemia. ph. ? . . .	One sister d. of ph.; run down 6 months; O cough	0
29 84. N. A. C. . .	Bookkeeper. . . .	7. 4, "	13 "	Incip. ph. . . .	Cough 6 months.	0?
30 85. A. K. . . .	Stenographer. . . .	8. 6, "	9 "	" "	Cough 5 months.	0
31 88. M. E. A. . .	Librarian.	12. 12, "	9 "	Ph. (fibroid?) . . .	Mother and mother's mother d. of ph.; frequent cough 10 years.	0
32 93. S. K. C. . .	Waitress	3. 15, 1897	8 "	Incip. ph. . . .	One sister d. of ph.; hemoptysis 21 years before; cough 1 year.	0
33 94. J. E. P. . .	Seamstress. . . .	5. 21, "	3½ "	" "	Two sisters d. of ph.; cough 2 years	0
34 95. M. M. N. . .	Cook.	7. 2, "	2 "	Pleurisy with-out eff. . .	Pain in chest 2 years before; O cough.	0
35 99. J. A. M. . .	Housewife	10. 6, "	11½ "	Incip. ph. . . .	Two aunts d. of ph.; cough 4 months.	0
36 101. C. B. M. . .	Teacher.	10. 30, "	6½ "	" "	One uncle d. of ph.; cough 6 months.	+
37 102. A. N. . . .	Maid	12. 1, "	3½ "	" "	Cough 2 months; profound anemia	0
38 104. F. C. . . .	Dressmaker. . . .	1. 27, 1898	21½ "	" "	Slight cough 5 months.	+
39 108. N. L. C. . .	Clerk	6. 9, "	3 "	" "	Father d. of ph. and all his family; cough several years.	+
40 110. I. W. . . .	Housework. . . .	6. 20, "	year	Incip. ph. T.B. of bladder. . .	One sister d. of ph.; cough 1 year; pain across chest front	+
41 111. A. K. . . .	Teacher.	7. 7, "	2 months		Cough 15 months.	+
42 112. A. N. . . .	Mission.	7. 11, "	1 year	Incip. ph. . . .	Cough 21 months; sweats; pain on l.	0
43 114. A. B. . . .	Stenographer. . . .	10. 25, "	8½ months.	" "	One brother d. of ph.; cough 9 months; dyspnea	+
44 115. M. G. T. . .	Teacher.	10. 31, "	7½ "	" "	One sister d. of ph.; pain r. 9 months before with cough.	0
45 116. L. G. . . .	Maid	11. 22, "	11 "	" "	Cough 6 weeks.	0
46 120. S. B. F. . .		7. 19, 1899	14½ "	" "	Mother and sister d. of ph.; cough 1 year; sweats	0
47 122. A. D. . . .		11. 23, "	11 "	" "	One brother and 1 sister d. of ph.; cough 4 weeks; sweats	+
48 123. M. M. . . .	Maid	12. 11, "	3½ "	" "	One brother and one sister d. of ph.; pain l. 3 years before; cough 2 months.	0
49 124. M. L. . . .		1. 9, 1900	4 "	Pleurisy; incip. ph. . . .	Pain on r. 3 weeks with cough.	0
50 125. M. N. . . .		1. 30, "	5 "	Incip. ph. . . .	Pneumonia(?) 2 years before; glands removed 3 years before; occasional cough.	+
51 126. M. G. D. . .		5. 29, "	11 "	Well-marked ph. . . .	One sister d. of ph.; cough 10 months before	0
52 127. E. A. McG. .		6. 12, "	7 "	Well-marked ph. . . .	Pneumonia 6 years before; cough 3 months	+
53 129. L. B. W. . .	Housewife	9. 14, "	7 "	Ph.	Father d. of ph.; cough 3 months.	+
54 130. M. E. S. . .	Cotton mill. . . .	10. 13, "	6 "	" "	Father, 2 brothers and 2 sisters d. of ph.; cough 2 months.	0
55 136. F. A. L. . .	Housework. . . .	10. 22, "	8 "	" "	One sister, 1 aunt and 1 uncle d. of ph.; cough 3 months; sweats	+
56 139. M. T. . . .	Dressmaker. . . .	10. 21, "	5 weeks.	Incip. ph. . . .	Cough 18 months with occasional hemoptysis	+
57 140. M. V. . . .	Housewife	10. 21, "	5 "	" "	One uncle d. of ph.; cough 8 months.	0
58 144. M. A. . . .	Bookkeeper. . . .	11. 5, "	5½ months	" "	Cough 3 years before; O at entrance	0
59 144. E. A. D. . .	Housewife	12. 5, "	3½ "	" "	Cough 4 years with occasional bloody sputa	+

ARRESTED TUBERCULOSIS.

Physical Signs.	T. B.	Years Since Disch.	Date of Death.	Present Condition.	Present Occupation.	Remarks.
Dul. r. apex; clicks both sides.	+	0	1897; 6 years after discharge.	Dead.		Had two tapes worm later; swallowed ammonia by mistake; crinoid; relapse.
R. front dull to fourth rib and all over r. back; slight crackles after cough.	+	0	Dec. 31, 1892; 15 mo. after disch.	Dead.		Died of acute illness; sick 23 days; resumed teaching, against advice, in badly ventilated building.
Slightly jerky at r. apex.	0	12		Good Feb. 20, 1903	Hat factory.	
Dul. r. top with tubular resp.; clicks r. lower front.	0	12		"	Housework.	
Slight dul. r. apex with faint râles; also râle on l., esp. in back.	0	11		" Feb. 20, 1903	"	Married 6 years; 3 children.
Slight dul. r. apex with b. v. resp. and (?) râle.	0	11		" " " "	"	
Nothing abnormal.	0	11		" Jan. 1, 1903.		Married and has 1 child; proved later to be tubercular, but now well.
Slight dul. l. apex with rare râle to third rib; rare râle on r.	0	10½		" Feb. 20, 1903.	Housework.	Married; has 2 children.
Slight dul. r. apex with faint râle front and back; V. R. +.	0	10½		" " " "	"	Married.
Slight dul. l. apex with râle above l. clavicle and low r. back.	0	9		" " " "		
Slight dul. r. apex with slight B. V.	+	9		" 1903.	Nurse.	
O dul.; coarse clicks both apices.	+	8		" Feb. 20, 1903.	Housekeeper.	
O dul.; faint râle r. apex and lower r. axilla.	0	0	1895; 2 years after discharge.	Dead.		Resumed unhygienic occupation.
Slight dul. lower r. back with faint br. and occ. râle; (?) râle at top.	+	0	July 4, 1895; 1½ mo. after discharge.	Dead.		Returned to very damp house; remained well while away.
Slight dul. r. apex with ? râle.	+	0	Dec., 1895; 1 year after discharge.	Dead.		Died from operation; no trace of pulmonary disease found just before death.
Slight dul. mid. r. back with faint râle.	+	8½		Excellent.	Maid.	
Sl. dul. in r. apex and in lower r. back; obscure resp. ? crep'n anter. axillary.	+	8		" 1902.		
Dul. r. apex with fine râle V. R. +; also râle on l.	+	0	Mar. 23, 1900; 5 yr. after discharge.	Dead.		Well for 2 years after discharge; overwork brought on relapse.
Slight dul. r. apex without râle.	0	8			Housework.	Health good at last report, 3 years ago.
Slight dul. r. apex with faint râle; V. R. + both sides.	+	7		Good, Dec., 1901.	"	
Slight dul. both apices; ? râle by sp. l. scap.	0	0	Dec., 1897. 1 year after discharge.	Dead.		Readmitted June 13, 1895; T. B. found then; unsan. surroundings; hard work.
Slightly harsh both tops back; ? râle sp. both scap.	0	8		Good, 1902.	Dressmaker.	
B. V. and V. R. + both tops; râle l. apex	0	8		Good accounts last report.		No report received of late.
Dry râle l. top; faint râle r. top.	+	7		Good, Jan. 14, 1903	Housewife.	
B. V. resp. in apices.	+	7		" 1902.	Housework.	Discharged improved; arrested later.
Faint moist râle above r. clav. and spine scap. with b. v. resp.	+	6		" Jan. 14, 1903	Keeps boarding house.	
Slight dul. r. apex; faint râle l. apex.	+	0	1903, 5½ years after discharge.	Reported dying Jan., 1902.		Readmitted; remained well 3 or 4 years after discharge; remarkable case.
Resp. prolonged r. apex behind.	0	7		Good, Jan. 14, 1903	Housework.	
Resp. + r. apex; V. R. +; râle l. apex.	0	6		" " " "	Bookkeeper.	
Slight dul. apices; fine râle in bk. and at l. scap.	+	6		" " " "	Nursing.	
Dul. with b. v. r. apex; fine râle l. front low l. bk.	0	6		" " " "	Housework.	Readmitted for 7 months; married later.
Dul. apices and l. right bk.; crep. in low r. bk.	0	5+		" " " "	Waitress.	
Clicks above each clav.; b. v. in r. apex bk.	0	6		" " " "	Dressmaker.	
Dul. with rub. lower two-thirds r. chest.	0	6		" " " "	Housework.	Married; 1 child.
Dul. with râle and ? rub. low l.; ? râle in r.	+	4½		" Feb. 20, 1903.	Clerk.	
Dul. r. apex with V. R. +; faint click above each clavicle.	0	5		Good, Feb. 20, 1903		
Slight + pitch r. apex.	0	5		" " " "	Cook.	
Dul. upper half r. back without râle.	0	3½		" Jan. 14, 1903	Housework.	Says grows stronger each year.
Note + over r. bk.; ? crep. below l. scap.	0	4½		" " " "		Married; 2 children.
O dul.; ? râle low r. and l. back.	0	4		" " " "	Teacher.	Had urinary tuberculosis also.
Dul. r. apex; slight b. v. and V. R.; sl. + ...	+	1½		Fair, " " "		
Percussion dull both apices; resp. and V. R. + on r.	0	4		Good, Feb. 20, 1903	Mission.	Married; 1 child.
Dul. r. apex and slight on l.; râle r. bk. and on l. at top.	+	4		" Jan. 14, 1903	Housework.	Married.
Dul. + r. bk. and axilla with dim. resp. and ? râle; ? râle r. top front.	0	4		" " " "	Teacher.	
Dul. r. apex with râle in front.	0	0	1900.	Dead.		Complicated with mitral disease; lived in damp house; relapse.
Slight dul. l. apex without râle; râle r. apex.	0	2½		Good, Jan. 11, 1903		
O dul.; sonorous râle all over l.	+	2½		" " " "	Stitcher.	
Slight dul. l. top with faint râle and b. v. — less degree on r.	+	3		" Nov., 1901.	Maid.	
Slight dul. r. top and base front and back; faint râle at base.	0	3		" Dec. 26, 1901	Housework.	
Jerky low l.	+	3		" Jan. 14, 1903	Student.	
Dul. both tops behind; râles all over l.; ? r. top.	+	0	Jan. 4, 1903, 2 years after discharge.	Dead.		Arrest of disease unexpected; well several mo.
Dul. both tops with râles.	0	0	Jan. 21, 1902, 1 yr. after discharge.	Dead.		Died of phthisis; for some time sometime after deny.
Dul. r. top with clicks, esp. in bk.	+	2		Good, Jan. 14, 1903	Factory.	
Slight dul. l. top with râles; also in l. axilla râle.	+	2		" " " "	Clerk.	
Slight dul. r. top with râle; faint râle on l. top.	+	2		Poor. " " "		
Slight dul. both tops with faint râle l. front and ? l. bk.	0	2½		Fair. " " "	Dressmaker.	Went away much too soon, against advice.
Slight dul. both tops with faint râle above clav.	0	½		" " " "	Housewife.	Went away much too soon, against advice.
Slight dul. apices, esp. l.; rare wheeze r. top and low r. bk.	0	2		Good. " " "	Bookkeeper.	
Jerky l. apex; fine râle 3d l. interspace and opp. mid. l. scap.	+	2		" " 16 "	Housework.	

TABLE OF CASES OF

Case.	Occupation.	Entered.	Stay in San.	Diagnosis.	History.	Hemoptysis.
60 149. E. C. C.	Student...	12, 26, 1900	5½ months	Adv. ph	Cough 8 months; sweats...	0
61 150. A. R.	Stitcher...	1, 7, 1901	4½ "	" "	Hemoptysis 10 months before; cough 11 months	+
62 152. S. G. P.	Milliner...	1, 26, "	4 "	Incip. ph	Subject to cough always, esp. last 2 weeks; sweats...	0
63 153. A. J. F.	Housewife	2, 11, "	3½ "	" "	Hemoptysis 8 months before with cough	+
64 154. S. A. S.	"	3, 9, "	6 weeks	" "	Cough 3 months with bloody sputa; sweats...	0
65 156. M. A. C.	Machine operator	4, 4, "	6½ months	" "	Pleurisy 1 year + before, with cough since	+
66 158. E. G.	Typewriter...	5, 3, "	4½ "	" "	O cough; slight pain up l. front.	0
67 160. A. M. M.	Teacher...	5, 9, "	5 "	" "	Cough 1 month; slight dyspnea	0
68 161. K. G.	Nurse...	5, 15, "	4 "	" "	Pneumonia 3 weeks before; sweats	0
69 163. B. B. O.	Stenographer...	5, 17, "	8 "	Well-marked ph.	Pneumonia 7 months before; sweats	0
70 164. J. M. M.	Hairdresser...	5, 23, "	3½ "	Incip. ph	Running down 2 years; no cough	0
71 171. A. T. M.	Housewife...	6, 15, "	5½ weeks	" "	No esp. chest symptoms	0
72 172. R. J. F.	Maid...	6, 17, "	3 months	" "	Cough 2 years; sweats 1 year before	0
73 174. L. E. W.	Housewife	6, 22, "	1½ "	" "	Occasional slight hemoptysis; O cough	+
74 176. A. N. G.	Nurse...	7, 30, "	7 "	" "	Run down for 4 years; sweats 2 years before	0
75 179. L. E. K.	Bookkeeper...	9, 19, "	2½ "	" "	Cough 12 years	0
76 181. M. A. McK.	Housework...	9, 21, "	5½ "	Well-marked ph.	Pneumonia about 3 years before; cough 3 months; sweats	+
77 182. M. G. M.	"	9, 23, "	2½ "	Incip. ph	Cough 2 months; sweats...	0
78 183. G. A. O.	"	9, 27, "	2½ "	Tub. adenitis	Bunches in neck 2 years; O cough	0
79 188. F. R. G.	Housework...	10, 23, "	4 "	Incip. ph	Cough 1 month	+

death. In the other 5 a return to unhygienic surroundings had brought about a relapse in patients who had on entrance marked symptoms of disease varying in extent and severity, and in whom any arrest of disease was thought on entrance to be improbable.

Since that time two more of those then reported (Nos. 18 and 27 of the following list) have died, both of whom had had well-marked disease in one or both lungs before entrance, and in whom the arrest was a remarkable proof of the efficacy of sanitarium treatment. One of these returned to a life of drudgery with four small children and no servant to assist her. She remained very well for two years at least, but finally broke down and died five years after discharge. The other, all of whose family had died of phthisis, remained in excellent health without any abnormal symptoms, in spite of hard work in Boston and in Florida for three years. After marriage she broke down again. Her cough returned. She again entered the sanitarium, where her cough again ceased completely for several months, but in consequence of a severe cold last autumn she had another relapse, failed rapidly, and died this winter in Florida.

The histories of the remaining 4 of the 12 who have died are significant. Only one (No. 45 of the following list) was what can be called an "incipient" case, with râles at one apex, complicated with severe mitral disease, which rendered the treatment more difficult. An arrest of the cough and expectoration was accomplished, but on return to a damp, unhealthy house, the patient relapsed, rapidly failed, and died not long afterward. Two others (Nos. 51 and 52) had well-marked symptoms in both lungs, but remained two or three months in the sanitarium without cough or other abnormal symptom, and for months after discharge were in excellent health. For reasons not fully explained, however, both these cases suddenly developed serious symptoms again, and died one and two years after leaving the sanitarium. The remaining case (No. 61) had far-advanced disease in one lung. After a stay of 4¾ months at Sharon she left without any abnormal outward symptom, looking perfectly well, and remained so for several months; but a return to objectionable meth-

ods of life in the city brought on a relapse, and she died in 1902.

Of the remaining 67 "arrested" cases, excellent accounts are received with only one or two exceptions, the former having sent no report at all of recent years. She was known to be feeling well at last accounts. The latter, a case of fairly well-marked disease, has failed in strength, and doubtless will sooner or later succumb to the disease. The majority write enthusiastically of their good health, some of them having left the sanitarium ten years ago. All are employed in their homes or in occupations which, as a rule, allow them to be out of doors more than before.

It would be impossible, of course, to give each case in detail to you here. A tabulation will be made with the published paper whereby one may judge fairly well for himself of the results claimed. For the laborious and careful preparation of these tables I am greatly indebted to Dr. Walter A. Griffin, the resident physician at the sanitarium.

I am aware that some of the cases could be possibly challenged from the fact that the presence of bacilli could not be proved and because the tuberculin test had not been tried. In answer I can only say that only those cases have been taken which experience teaches us usually develop later more definite signs of disease under unfavorable conditions. I wish it were in my power to bring before you some of these patients, now apparently well, who were in the sanitarium formerly. Their presence and aspect would speak more eloquently to you than my mere statements of what can be done. I must content myself, however, by citing a single case as an example.

One woman (H. Q.), a domestic, was sent to Sharon from the Massachusetts General Hospital out-patient department in 1893, with bacilli in her sputa and having evidences of trouble in the right lung. She had previously been told by a physician in Ireland that she had consumption and could not live. After a stay of 14 months, she left the institution, a magnificent specimen of health, her cough having ceased several months before. She has remained perfectly well since (9 years), having been actively employed as a domestic in

ARRESTED TUBERCULOSIS.—Continued.

Physical Signs.	T. B.	Years Since Disch.	Date of Death.	Present Condition.	Present Occupation.	Remarks.
+ dul. both apices, esp. r.; bronchial r. apex front; coarse râle over r.	+	2—	.....	Good, Jan. 16, 1903	.....	
+ dul. all over r. with bronchial at top and râles except low half bk.; ? râle l. apex	+	...	1902, 1 year after discharge.	Dead.....	.....	Returned to old unhygienic conditions.
+ dul. r. apex; V. R. +; O râle.	+	1—	.....	Good, Dec. 20, 1901	.....	
Dul. r. apex with fine râle in ft.; V. R. +	+	1—	.....	Good, Jan. 16, 1903	Housework..	
Dul. r. apex with ? râle in bk.; V. R. +	0	1½	.....	Good, Jan. 16, 1903	Stenographer..	Had pleurisy with effusion.
Dul. r. apex with b. v. and ? râle.; râle low r. axil.	0	1½	.....	"	"	
Dul. r. apex with + T. F.; fine râle third l. interspace.	0	1½	.....	" Feb. 20, "	Singer	
Dul. l. apex back with b. v. and V. R. +.	+	1½	.....	" Jan. 16, "	Teacher..	
Dul. l. apex with moist râle over upper half; ? fine râle r. apex.	+	1½	.....	"	"	
Dul. both apices, esp. l. and ++ at l. base; râles over l. and few on r.	+	1+	.....	" Oct., 1902..	.....	
Dul. r. apex and slight l.; fugitive râle r. and l. front.	0	1½	.....	" Jan. 16, 1903	.....	
Dul. r. apex — slight; râle r. top back.	0	2—	.....	Good, Jan., 1903..	.....	Left because of sickness in family.
Slight dul. r. top with râle in bk.	0	1½	.....	Fair, Jan. 16, 1903	.....	Left against advice.
Dul. r. top with b. v. and ? râle in back; fine râles third l. interspace.	0	2—	.....	.....	.....	
Dul. both tops with slight + resp. and voice.	0	1	.....	.....	.....	Tuberculin pos.
Slight dul. both tops with faint râle on r.	0	1½	.....	Good, Jan. 16, 1903	.....	Tuberculin pos.
Dul. l. esp. in lower front with râle; ? râle on r.	+	1	.....	"	.....	
Slight dul. both tops; fine râle on r.; ? on left.	0	1+	.....	" Feb. 13, 1903	Housework..	
Slight dul. l. apex and r. top in bk.; ? râle r. top; glands l. neck.	0	1+	.....	" Jan. 16, 1903	.....	
Less res. over r.; O râle	0	1	.....	.....	.....	Tuberculin pos.

Boston and the suburbs, and lately wrote that she was never better in her life. I could cite several other cases which differ only in minor details, but this will serve as an example of what can be done not far from home in a changeable, harsh climate, at an altitude not far above sea-level.

In citing these cases I do not wish to be misunderstood. I have never been one of those who believe because of the success of sanatorium treatment in a large percentage of cases in a climate like that of New England, that it is, therefore, unnecessary for any one to seek another climate. I believe, as I have stated elsewhere, that in more salubrious climates better results can be obtained by this method than with us; but for the hundreds and thousands of sufferers who for various reasons can not go far from home, institutions like Sharon, Rutland and that of Dr. Millet at East Bridgewater are of inestimable value. I claim, moreover, after twelve years' observation, that it has been shown that it is not always necessary to send people far away in order to get well.

To keep the subsequent histories of sanitarium patients before use is, therefore, of ever-increasing interest, for by so doing we learn the true value of what may have been of the nature of an experiment at the outset.

What may we learn by studying these cases? Not only that more can be done near our homes by these methods than has been thought possible in former years, but that a large percentage of patients in whom the disease is arrested can remain well under ordinary conditions of life, especially if attention is paid to proper methods of hygiene. On the contrary, we learn that a return to unhealthful conditions is in the majority of cases usually, although not always, followed by relapse and a fatal result.

It is made more evident, too, which has been often said, but it can not be said too often, that in order to obtain the best results, patients should be placed under treatment during the earliest possible manifestations of trouble, notwithstanding the fact that in many cases of well-marked disease success has been attained.

In this paper I have confined myself solely to the

histories of "arrested" cases, and have said nothing of the large percentage of those who have so much improved that they have become wage-earners again and a comfort to their families, even though they may not have wholly recovered their health. Neither have I touched on the educational influence which such institutions have on the community, a fact which I believe to be of as great importance as the benefit to the individuals themselves who enter for treatment. These points must be left, however, for other times and places.

As to methods of treatment and details of management at Sharon, they can not be enlarged on here. Suffice it to say they are what are employed in all well-regulated sanatoria of this nature. It may be said, however, that within the past three years the fresh-air treatment has been pushed to its utmost limit, even in the coldest weather, the results being even more satisfactory than in the earlier years of the sanitarium. Elsewhere² I have touched on this special point.

In conclusion, let me say that it is my belief that these methods will be found to be efficacious in all forms of tuberculosis, whether of medical or surgical nature. Surgeons are already seriously discussing the wisdom of fresh-air treatment in tubercular joint disease, and if we reason by analogy I see no reasonable ground for doubt that such cases will find it at least an adjunct as powerful for recovery as it is in pulmonary disease.

THE RED-LIGHT TREATMENT OF SMALLPOX.

NIELS R. FINSSEN.

COPENHAGEN, DENMARK.

In a former issue of *THE JOURNAL*¹ there appeared an article by Dr. J. F. Schamberg, entitled "An Examination into the Claims of the Red-Light Treatment of Smallpox." He criticises the treatment: 1, Because I called it a new one; 2, because he considers my theoretical views concerning smallpox and light to be wrong, and 3, because he is of the opinion that the red-light method has proved inefficacious, and that the good results in all former experiments may have been due to

2. Origin and Growth of Sanatoria for Tuberculosis in Massachusetts. *Jour. of Tuberculosis*, vol. v, No. 2, April, 1903.

1. May 2, 1903, page 1183.

other factors; and he further suggests that the cases so treated were probably so mild in type that they would have escaped suppuration without the red-light treatment.

I. "THE RED-LIGHT TREATMENT IS NOT NEW."

I am surprised that Dr. Schamberg should consider the modern red-light treatment to be the same as the one employed in the middle ages by Gaddesden and others. The modern red-light treatment is a negative treatment, its object being to prevent the chemical rays of daylight or light from acting injuriously on the patient. Whether this be obtained by leaving the patient in entire darkness or in red light is in itself quite immaterial. I have recommended red light because it is more agreeable than complete darkness, while it is of the same value in the treatment, but I have no doubt that either dark-yellow or dark-green curtains might be used, provided only that they are so dark as to exclude the chemical rays.

In my papers on the subject I have used the expression "treatment of smallpox by exclusion of the chemical rays of daylight" more frequently than that of "red-light treatment," thus avoiding the danger of mistake as to any similitude with Gaddesden's treatment. The latter term, however, has the advantage of being shorter and more easily understood, especially by those who have some idea of photography and of the photographer's red-room. Gaddesden's treatment was a positive one, and consisted in surrounding the patient with all sorts of red things, red pictures on the walls, red balls in the patient's bed, etc. Dr. Schamberg himself quotes the following description of John of Gaddesden's way of treating the Prince of Wales, who was "treated for smallpox by being put into a bed surrounded with red hangings, covered with red blankets and a red counterpane, gargling his throat with mulberry wine and sucking the red juice of pomegranates." At that time it did not occur to them to shut out the light from the sick-room. Their explanation of this peculiar treatment was that the red articles should irritate the blood just as a bull is irritated by a red cloth, thus producing a more pronounced erythema, that is, forcing all the "bad matter" to get out."²

The object of the modern "red-light" treatment is just the opposite, viz., to make the exanthem less pronounced. When, in spite of all this, Dr. Schamberg states that the modern red-light treatment is not new, but the same as that of the middle ages, I do not agree with him.

II. "MY THEORIES ARE NOT CORRECT."

Considering the fact that the author of this criticism has so faulty an understanding of the method that he considers the smallpox treatment of the middle ages as identical with the modern treatment, that of excluding the chemical rays of light, I think that it would be useless to discuss theories with him.

III. "THE RED-LIGHT TREATMENT OF SMALLPOX IS INEFFICACIOUS, AND THE GOOD RESULTS, AS SHOWN BY ALL FORMER EXPERIMENTS, ARE DUE TO OTHER FACTORS."

The above verdict on the results obtained and published by a score of well-known physicians skilled in the treatment of smallpox, is pronounced by Dr. Schamberg, on the basis of an experiment made by himself with two patients. Although this number, as admitted by Dr. Schamberg himself, is small indeed, I might not have

taken exception to it had not it clearly appeared that both patients were put under treatment too late, and the treatment did not fulfill the conditions I have fixed as indispensable. I therefore can not help thinking that Dr. Schamberg would have acted more wisely had he deferred the publication of his opinion until he had gone into the matter more thoroughly.

Dr. Schamberg says in his paper that his two patients were placed in the red-light room "about the third day of the eruption"; in other words, on the seventh day of the disease.³ In my paper in the *British Medical Journal*⁴ I say: "When the patients come under treatment early enough, before the fourth or fifth day of the disease, suppuration of the vesicles—even in unvaccinated persons and in cases of confluent smallpox—will be avoided, one exception out of about 70," and, further, in the same paper, "should the patient come under treatment after the fifth day of the disease, it is uncertain whether the suppuration can be avoided. Sometimes this is the case, sometimes not."

Now, as Dr. Schamberg's two patients were unvaccinated, delirious men, furnishing particularly severe cases with confluent pustules, it was particularly unfortunate that they did not come under the treatment until so late, and I am not surprised that suppuration occurred.

Of the many medical men who have tried this treatment and who have written about it, Dr. Schamberg is, so far as I know, the only one who disparages it on the ground of bad results. I have no doubt that he, too, will become a warm sympathizer in time.

THE CONDITIONS INDISPENSABLE TO SUCCESS.

In order to prevent future attacks, based on erroneous experiments with this method, I repeat that two conditions are absolutely indispensable if good results shall be obtained, viz.: 1, As stated above, the patient should be placed under treatment sufficiently early, and 2, the chemical rays of daylight should be absolutely shut out. The efficiency of the method is so certain that in case suppuration should occur in a patient who was placed under the treatment in proper time, the first thing to be thought of is that from want of care either on the part of the patient or of the nurse daylight may have penetrated. Therefore, before the method can justly be declared a failure the thoroughness with which it is carried out should be tested by exposing photographic plates or sensitized paper as a means of control in different places in the sick-room. If these photographic plates show the influence of white light the technic of the treatment has been imperfect. A few of those who have applied the method have at the same time treated the patient by other remedies as well. Such a course is objectionable for scientific purposes, as it is then impossible to decide which agency is responsible for the results. In order to give the experiments decisive scientific value they should be carried out under strict control and the patient placed under the treatment in proper time.

3. See f. inst. W. Th. Corlett: "A Treatise on the Acute Infectious Exanthemata," p. 37, Philadelphia, 1901.

4. Dec. 7, 1895.

Remarkable Case of Contagion of Syphilis.—A pedestrian was accidentally hit on the nose by the tip of the whip of a passing teamster. A typical chancre developed at the point of the slight excoriation and investigation revealed that the teamster had syphilitic lesions in his mouth and was in the habit of nibbling his whiplash. This occurrence was reported by Dr. Melot in a French exchange.

2 See Prof. Jul. Petersen's article in the "Hospitallstidende."

Clinical Report.

A CASE OF EMPYEMA OF THE FRONTAL SINUS.*

C. A. THIGPEN, M.D.
MONTGOMERY, ALA.

J. B. C., aged 38 years, consulted me for headache and vertigo.

History.—Thirteen years ago he had an attack of la grippe which was accompanied by much constitutional disturbance. During the time of his confinement he had fever and suffered much from headache, which was intolerable at times. He also stated that there was a discharge from the left nostril which has persisted since, except at times when he would "take cold" the discharge would cease, and his headache would become more intense, with much vertigo, nausea and mental stupor; these symptoms subsiding "when the cold would break" with a profuse discharge from the nose.

With this incomplete history of thirteen years' suffering I began my examination of the patient. His physical appearance was one of anemia and emaciation. The left frontal region was more prominent than the right, and the left eye was pushed down and out, and there was diplopia.

Examination of Nose.—Right nostril was clear and free from disease. Left nostril, there were several large polyps which occluded the nostril, and these were bathed in pus, which filled the entire cavity. With this condition of things I at once concluded that he had empyema of the ethmoidal, frontal and maxillary sinuses on the left side and advised operation, which he refused at that time. About two weeks later, however, he returned to me in great distress, and requested me to perform the operation. He was accordingly placed in the hospital and the usual preparations made.

Operation.—Preliminary to opening the frontal sinus I removed the polyps with the middle turbinate and curetted and broke up the anterior ethmoidal cells. The frontal sinus was then opened by making a median vertical incision, which was joined by one at right angles just above the brow. I selected the highest point possible in order that I might drill freely downward and backward into the nose. On opening the cavity a great quantity of pus escaped in spurts, with the pulsations of the heart. There were also some small polyps and granulations, and on removing these with my curette I came in contact with a yielding surface, which pulsated. The opening in the bone was enlarged, and I found myself in a large cavity, the anterior wall of which was formed by the frontal bone and the posterior wall by the dura and the brain. Around the border of this cavity there were firm adhesions between the dura and the bone. There was a firm and strong septum which separated this cavity from the opposite side. The dura was much thickened and covered with granulations. These were gently curetted away and the cavity irrigated with saline solution. No difficulty was experienced in making a large opening into the nose, through which was drawn a large piece of gauze. The cavity was loosely packed and the external opening closed, except at the lower inner angle. The head was bandaged and the patient placed in bed. The subsequent course of the case was uneventful, fever and pain disappeared, as well as the vertigo, and the mind became much clearer. After two weeks the patient was allowed to return to his home, with instructions how to look after himself. Reports from time to time were favorable, and three months later, when he returned to see me, I was surprised to find him entirely well, having gained much in weight. He was the picture of health. Careful examination failed to find any cavity which had become obliterated.

I report this case because of the unusual conditions found at the operation, the absence of the posterior wall of the sinus, pressure on frontal lobe, with mental impairment. Whether the absence of the posterior wall of the cavity was an

anatomic anomaly or the result of breaking down due to prolonged suppuration, I am not able to say, but I rather incline to the latter opinion. Ingals reports one case somewhat similar in which there was an absence of the septum and posterior walls of both cavities. The same author also cites a case of Gibson's where there was an absence of the posterior wall on right side, the patient dying of septic meningitis.

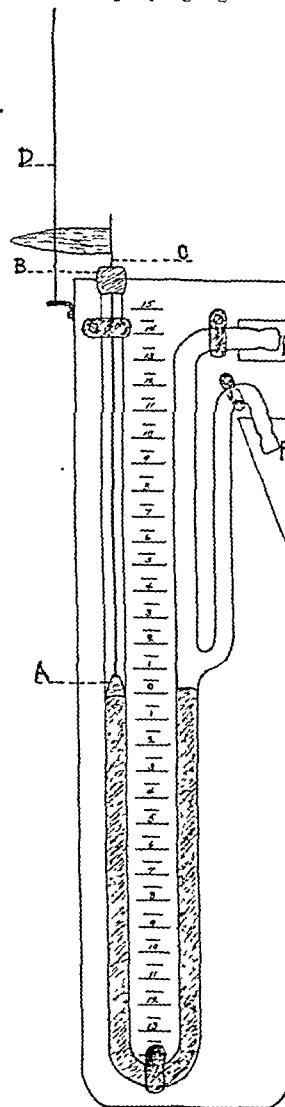
New Instrument.

AN IMPROVED MERCURY MANOMETER.

C. C. GUTHRIE, S.B., M.D.

(From the Hull Physiological Laboratory, University of Chicago.)
CHICAGO.

The accompanying figure illustrates the main features of a



mercury manometer which I have found more convenient than the ordinary type for blood-pressure work.

The float A and cap B are made of aluminum and the piston C and the guide rod D of polished or nickel-plated steel. The wood base is cut out in such a manner as to protect the ends of the tubes E and F. E is connected with a three-way canula, which is in communication with the pressure bottle and blood vessel. In filling or washing out the manometer from the pressure bottle with the solution used to prevent clotting (I employ 2 per cent. sodium citrate), F, which is fused into the manometer tube E, about 1 cm. above the level of the mercury at zero pressure, serves as an outflow tube. Of course, when a pressure tracing is being taken, the rubber tube on F is closed by a pinch-cock. The perpendicular guide rod which keeps the writing point against the drum is movable around a horizontal axis and is thus easily adjusted, and as it is attached to the manometer base, it does not interfere with other apparatus on the manometer stand.

Social Functions of the County Society.—The *Iowa Medical Journal* commends the spending of time occasionally in social functions where physicians can meet at least in a semi-leisure way, where they find that each of them is well worth cultivating—for the physician, however scientific he may be, is more than a scientist; he is a man, he is earnest, he is honest, he is broad, he is deep, he has heart interests, he has sympathies. He appreciates all those things that go to make up the best that is in the world and has to consider all those things that go to make up the worst of the world.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woolen.

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THE ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM.

It has long been held that acute articular rheumatism is an infectious disease, but no positive proof has been furnished. The basis for this belief includes the following clinical observations: 1, Rheumatic fever occurs in epidemics; 2, there is a great constancy in the seasonal variations; 3, there is a striking similarity of the symptoms of rheumatic fever to those of septic infections. Bacteriologic investigations of this disease have not been wanting, but the results are somewhat confusing. As early as 10 and 12 years ago several investigators reported the finding of staphylococci, streptococci and diplococci in the excrescences in the heart valves and in other organs of patients who succumbed to this disease. Among the earlier investigators we find four who have isolated staphylococci, five who isolated streptococci and six who found diplococci.

In 1897 Achalme found an anaërobic bacillus in the heart's blood and in other organs of patients who died from acute rheumatism. This work was confirmed by several other French investigators, but more recently discredit has been thrown on it by Achalme himself.

In 1899 these investigations received a new impetus through the work of Wassermann. He reported a case of post-rheumatic chorea, from the heart's blood of which he isolated a streptococcus. This organism appeared as a diplococcus in the tissues, but formed chains on artificial media. It grows best in alkaline media. When injected into animals it produces fever, arthritis and death. Wassermann believes this organism to be the cause of rheumatism, and differentiates it from other streptococci by the facts that it grows best in alkaline media and that it produces arthritis when injected into animals. Meyer described a similar organism which he isolated from the tonsils of patients suffering from acute rheumatism. His cultures from the blood and joint punctures gave negative results, but nevertheless he concludes that his organism is the cause of rheumatism.

These views were strongly opposed by Singer and by Menzer, both of whom have isolated streptococci from cases of acute rheumatism. Singer, who seems to have done more work on this disease than any other investigator, believes that it may be caused by any of the pyogenic cocci. In over 100 cases that he examined with some 30 positive results he found the *Streptococcus pyogenes* most frequently, and occasionally the *Staphylococcus pyogenes aureus*. Both he and Menzer point

out that joint changes have been produced in animals with staphylococci and with streptococci which were isolated from the throats of scarlet fever patients, when these organisms were injected into the circulation. They also call attention to the fact that some of the ordinary streptococci grow best in alkaline media, as was shown by Lingelsheim. It is also well known that streptococci may be isolated from the throats of patients not suffering from rheumatism and of healthy persons. Hence not much stress can be laid on the work of Meyer.

In 1900 Paine and Poynton reported 8 cases from which they isolated a diplococcus. This organism also produces arthritis, pericarditis, endocarditis, wasting and death when injected into animals. It grows best in acid media. These investigators believe their organism to be a cause of acute rheumatism and to be identical with that described by Wassermann. It is interesting to note here that this organism grows best in acid media, while Wassermann attempts to differentiate his organism from other streptococci by the fact that it grows best in alkaline media.

Beaton and Walker¹ have recently taken up the study of acute articular rheumatism and have described a diplococcus which grows in chains in artificial media. It grows best in strongly alkaline bouillon and produces large amounts of formic acid. It grows in the filtered cultures of streptococci and hence, according to Marmorek, is not an ordinary streptococcus. They found this organism in the heart's blood after death from chorea, acute rheumatism and endocarditis, and also in the blood and urine of patients before death. When injected into animals it produces fever, wasting, arthritis, pericarditis and endocarditis. They believe this organism to be identical with the one described by Wassermann and to be specific for acute rheumatism. They have proposed for it the name "*Micrococcus rheumaticus*." Culturally, it can not be differentiated from the pyogenic streptococci, but these investigators attempt to differentiate it on the following points: 1, It grows best in alkaline media; 2, it produces arthritis, endocarditis, etc., when injected into animals; 3, it grows in the filtered cultures; 4, it produces large amounts of formic acid. The first two points have already been dealt with, and in regard to the others the following may be said: Streptococci will grow in the filtered cultures if the filtrate does not contain too high a percentage of acid for the organism which is inoculated. All streptococci are said to produce formic acid, and when we consider that the toxin-producing power of these organisms varies within wide limits we would not be surprised to find that the acid-producing power is different under different conditions.

It seems, therefore, that we are not yet justified in speaking of a specific *Micrococcus rheumaticus*. The pyogenic cocci have been repeatedly isolated from the heart valves and blood of patients who succumbed to

1. British Med. Jour., Jan 31 and Sept. 19, 1903.

acute articular rheumatism, chorea and malignant endocarditis, and it would seem as if these organisms do maintain an intimate relationship to the processes usually spoken of as acute articular rheumatism.

BEHRING'S VIEWS ON TUBERCULOSIS.

Behring, who is a good authority on such questions and whose opinion, therefore, carries weight, accepts the view that everyone is slightly tuberculous, but this by no means implies that everyone is or will be affected with pulmonary phthisis. He thinks two things are necessary to produce phthisis: a tuberculous focus and bodily conditions favoring the development of the disorder. He regards the contagion of consumption in adults with grave doubt, holding that it has not yet been demonstrated. Therefore, the predisposition to pulmonary infection is not in exposure to infection which is shared by all more or less, but in the conditions of life. The more probable cause is the awakening of a latent focus into activity on account of defects of nutrition or from impairment of health.

Leaving out of consideration for the present his opinions as to the early infantile origin of pulmonary phthisis, his views are in a measure somewhat comforting. These views should not encourage us to neglect reasonable precautions for self-protection, but they do oppose the pessimistic views held by some modern alarmists. Behring's opinions also have this in their favor; they harmonize with the great decrease of tuberculosis under better modern conditions of living which implies that the bodily resistance, given a fair chance, will throw off the disease. As we have often said, it seems probable that in time consumption may be a comparatively negligible affair and that tuberculous infection of itself is not so much to be feared under ordinary hygienic conditions of life. It is only when reinforced by other pathologic infections that it develops into the disease so much dreaded. The possible, if not even probable, hope of an immunizing serum against tuberculosis is also to be considered. The results of Behring's experiments on the lower animals, as well as the earlier ones of Trudeau and De Schweinitz, are certainly encouraging, and give us good reason to be hopeful for the future.

While the profession is in a receptive mood for anything scientific and new in regard to tuberculosis, it is not yet prepared to swear by the words of any master, however high he may be in science or in medicine. The result of Behring's utterances, therefore, will be to increase our caution as regards the infant acquirement of tuberculosis and probably not to diminish it as regards its communicability to adults. One thing is certain, however, and that is that bodily resistance to the germ is an important thing. We must build up our defense, while not neglecting active measures to prevent the attacks from the outside. In any case it is well to remember, considering the discrepancies of views held

by some authorities whose opinions we can not but respect, that extreme radical opinions in regard to either the dangers or comparative harmlessness of the tubercle germ are out of place. We have to be somewhat selective as regards our views, and it must be with judgment. Another thing is that the evidence shows that the problems of tuberculosis are not to be worked out at once. We are yet in the transition period, and there is much uncertainty before as well as behind us in regard to this particular subject. The report of the British Tuberculosis Commission will be anticipated with interest as probably giving a judicial statement of our present acquisitions, if not more positive data, especially as regards the varying views held as to the dangers of bovine tuberculosis and the liabilities of the human species to its infection.

CHRISTIAN FENGER AS A PATHOLOGIST.

In an address before the Chicago Pathological Society¹ Dr. E. R. Le Count gave an excellent and thorough review of the pathologic work of the late Christian Fenger. It was indeed a happy thought that guided the author in the preparation of this address along the lines indicated in its title; for it was the persistent, laborious study of the fundamental pathologic conditions that gave to Fenger's work as a surgeon and as a teacher of surgery its lasting influence on the development of scientific medicine in this part of the country.

This is hardly the place to review in detail Fenger's remarkable work as pathologist and surgeon. Those who knew him in his lifetime and perchance were fortunate enough to come under his personal influence will find that Dr. Le Count's address in every way gives an adequate and sympathetic presentation of his painstaking methods of work and of the scope of his investigations. To the younger generation of medical men just entering on the scene of professional activity the address is recommended for careful study in order that they may receive stimulus and inspiration from this noble example of untiring work and love of truth that after all were the chief lessons of Fenger's life, for the master-word in medicine is "work." "It is directly responsible for all advances in medicine during the past twenty-five centuries. Laying hold on it, Hippocrates made observation and science the warp and woof of our art. Galen so read its meaning that fifteen centuries stopped thinking and slept until awakened by the *De Fabrica* of Vesalius, which is the very incarnation of the master-word. With its inspiration Harvey gave an impulse to a larger circulation than he wot of, an impulse which we feel to-day. Hunter sounded all its heights and depths, and stands out in our history as one of the great exemplars of its virtues. With it Virchow smote the rock, and the waters of progress gushed out; while in the hands of Pasteur it proved a very talisman to open to

1. Trans. Chicago Path. Society, 1903, vi, 1-20.

us a new heaven in medicine and a new earth in surgery. Not only has it been the touchstone of progress, but it is the measure of success in everyday life."

So writes Osler in one of his helpful and charming addresses. And it was work that made Fenger, at first practically unaided, the leader of scientific medicine in the Northwest for twenty odd years, a period which he himself characterized as a period of uninterrupted progress. It was work that made it possible for him, coming here from a strange country, to say at the close of his career: "It is a satisfaction to me to have done my life-work here, witnessing and taking as best I could a small part in the growth of the West."

GRANTS FOR SCIENTIFIC WORK.

A further result of the small grants given by the American Medical Association to promote scientific research is embodied in the article by Otis and Evans on "The Morphology and Biology of the Parasite from a Case of Systemic Blastomycosis" in *THE JOURNAL*, October 31. Through an unfortunate oversight it was not stated in connection with the title of the article that the work had been promoted by an Association grant. We have referred in the issue of July 4, 1903, to the significance of the case of accidental infection with *oidiomycosis* from which was recovered the same organism as that described in the exhaustive study of Otis and Evans. It may be recalled that this case, being one of accidental infection from a known source, is to be regarded as an important landmark in the series of observations that have established *blastomycosis* or *oidiomycosis* on a firm basis. It was, therefore, doubly desirable that a thorough study of the organism concerned should be made. So far, the small grants offered by the Association have been the means of promoting interesting researches into the nature of *streptocolysin*¹ and in the field of mold-fungus infections of man. We believe that not the least important result of these grants is the encouragement thus given to young men to develop the spirit of investigation.

OUR PHILIPPINE QUARANTINE SERVICE.

Since we have acquired eastern possessions, with certain responsibilities and risks, it is satisfactory to know that our agents in the Orient are attending to sanitary matters. Plague and cholera have existed in the Philippine Islands for the past year and the latter especially has been a scourge in a large portion of the group. Notwithstanding the fact that we are in almost weekly communication with the islands and that travel back and forth by army transports and otherwise has become very extensive, we do not dread the introduction of cholera into this country because of our confidence that the quarantine authorities in the Philippines are wide-awake. The annual report of the chief quarantine officer for the Philippine Islands for the year ending July 31, 1903, contains some interesting particulars. With the possible exception of the work done at Tor, Egypt, near the southern entrance of the Suez canal, there is

probably more disinfection accomplished at Mariveles station, near Manila, than at any other similar one in the world and this, moreover, with labor that speaks a foreign tongue and which has to be educated in every particular. This outlying fortress for public health is certainly doing very creditable work. There have been, it is estimated, about 300,000 cases of cholera in the Philippine Islands during the year covered by the report, and the extent of the disease is attributed largely to the possibilities of easy communication by small native crafts and boats which are hard to oversee throughout so extended a region and under such unfavorable circumstances as exist. A history of some of the epidemics that have entered the island prior to American occupation gives rise to the belief that some of them have entered from the south; therefore, an additional quarantine station has been established at Jolo, in the southern end of the archipelago, which is an important point in the commerce with adjoining Malaysian islands. It is a notable fact that plague has not extended during the year away from the City of Manila; it may be said to be firmly bridled and controlled. There seems to be a cordial co-operation between the public health service and the local boards of health in this matter. Taken altogether, and considering the possibilities of an inefficient or negligent administration of health matters there, we have many reasons to congratulate ourselves. Our commerce with our Oriental possessions is constantly growing, and with more intimate relations the greater will be the need of eternal vigilance as a safeguard for our own communities.

THE IMPORTANCE OF HEMATOLOGIC INVESTIGATIONS.

The number of those who decry the importance of blood examinations as a diagnostic measure is progressively diminishing, while the number of physicians who include a hematologic investigation among their clinical assets is as progressively increasing. It is not only the enumeration of the erythrocytes and the leukocytes and the estimation of the hemoglobin percentage that are of importance, but also a knowledge of the morphologic characteristics of the dried and stained films is frequently necessary for a satisfactory diagnosis. In some instances, although the blood may show no absolute leukocytosis, stained specimens show a relative leukocytosis of the first importance. In the case recently reported by Kelly¹ of a man who complained of weakness and who presented, on physical examination, slight jaundice, great enlargement of the spleen, moderate enlargement of the liver and leukoderma, a blood examination showed only 9,000 leukocytes. A differential count, however, showed that 98 per cent. of the white cells belonged to the lymphocyte class. Under observation, the leukocytes at different times numbered 6,000, 5,200, 18,200 and 37,600, and always with an increase of lymphocytes (96.5 and 98 per cent.). The patient died in coma. At the necropsy marked enlargement of the lymph nodes, except those of the axillary and the inguinal regions; enlargement of the spleen; gumma and syphilitic cirrhosis of the liver, and lymphadenoid bone marrow were demonstrated. There seems to be a ten-

1. *THE JOURNAL*, Oct. 17, 1903.

1. *Univ. Pa. Med. Bull.*, October, 1903. See abst., p. 1230.

dency, among certain observers, to depart from the original division of leukemia into two classes—lymphatic and myelogenous, as made by Ehrlich. To one reading the chapter on leukemia, in the eighth volume of Nothnagel's *Specielle Pathologie und Therapie*, by Ehrlich and Lazarus, the position of these writers is remarkably clear and their logic appears sound. It is possible that in cases such as the one detailed by Kelly an intercurrent syphilitic infection produced the anomalous conditions found in the blood-making organs. Cases of lymphadenoid degeneration of the bone marrow are perplexing; but there is no reason why this should not be a secondary manifestation as well as that secondary deposits of lymphoid tissue should be found in an organ like the liver. Neither does it seem absolutely essential that the lymph nodes shall be enlarged in order that the lymphocytes shall be swept in abnormal proportions into the blood stream.

Medical News.

ARKANSAS.

Hot Springs Visitors' Protective Association.—At the meeting, October 27, the association endorsed the work done by the executive committee and unanimously chose the same committee to carry on the fight. The committee consists of Drs. Algernon S. Garnett, Thomas E. Holland, Gaston A. Hebert, Paul T. Vaughan and Howard P. Collings. Dr. Oliver H. Barton was elected president and Dr. Frank W. Jelks secretary of the association.

The Grand Jury Indictment.—Drs. C. Travis Drennen and Thomas E. Holland, Hot Springs, were recently indicted by the grand jury for "drumming." That the act of the grand jury does not meet the approval of the profession is apparent from the following resolution passed by the Visitors' Protective Association:

WHEREAS, It has been brought to the knowledge of the Visitors' Protective Association that the grand jury has found true bills against Drs. C. T. Drennen and T. E. Holland, charging them with soliciting or drumming for patronage or patients; and

WHEREAS, We believe that such result was achieved through the unreliable evidence of one unworthy of credence, an enemy to good government, a violator of the law against drumming, and a personal enemy of the aforesaid physicians and the cause they have in the past espoused and are now so vigorously and ably prosecuting; and

WHEREAS, We believe that the effort of said party to procure said indictment, aided and abetted by others, who are alike strangers to the truth, opposed to good government and the enforcement of the law against doctor drumming, was made because of personal ill will to said physicians and to discredit the organized body of ethical physicians who are making a crusade against the methods of procuring patients by unethical and unprofessional doctors in the city of Hot Springs; now, therefore, be it

Resolved, That it is the unanimous belief of the association that the charges against Drs. Holland and Drennen are false and wholly without foundation; that we hereby express our full confidence in their fidelity to the cause they have espoused; in them personally, as men eminent in our profession, and possessing to the fullest degree that sense of professional ethics which characterizes every reputable physician and gentleman; be it further

Resolved, That, in order to show our full confidence in and esteem for said physicians and to emphasize the assertion that we believe said indictments were "conceived in sin and born in iniquity," we hereby request our attorney, Reid Gantt, Esq., to represent said physicians in their defense if they should need any attorney.

ILLINOIS.

Scarlet Fever.—The school at Sharpsburg has been closed on account of scarlet fever.—Springfield has 30 cases and an epidemic is feared.

Accused Guards Out on Bail.—The two guards at the Illinois Hospital for the Incurable Insane, Bartonville, accused of having caused the death of Thomas Hartley, a patient, have been released on bonds of \$10,000 each.

Smallpox.—The disease is said to be raging at New Athens, where churches and schools are reported to be closed.—Bloomington is reported to have 25 cases, and Charleston many cases, while in Westfield quarantine and vaccination has reduced the number of cases to 11.

Chicago.

Council Passes Toy-Pistol Ordinance.—On November 9 the city council passed the ordinance prohibiting the sale, loan or

furnishing of toy pistols, guns, etc., to minors, and fixing a \$100 fine for each offense.

Death-Causes of the Week.—Pneumonia leads with 67; then follow Bright's disease with 41, heart diseases with 40, consumption and violence with 37, and acute intestinal diseases with 31. The total deaths were 476, equivalent to an annual rate of 13.16 per 1,000.

Demands Muzzling of Dogs.—The Chicago Medical Society, October 28, indorsed the ordinance now before the council requiring the muzzling of dogs during the entire year. A committee will be appointed to attend the council and urge the passage of the ordinance.

Personal.—Dr. Frank Billings had so far recovered as to be able to be removed from the hospital to his residence November 11.—Dr. Sarah Hackett Stevenson is still in St. Joseph's Hospital, and her condition has changed little either for better or worse.—Dr. and Mrs. C. M. Briggs celebrated their golden wedding October 25.—Dr. and Mrs. J. Lewis Stettauer have returned after two years' residence in Europe.

The Prevention of Pneumonia.—The weekly Bulletin of the Health Department announces for the week ended November 7, 67 deaths from pneumonia, 14 per cent. of the total deaths, and 81 per cent. in excess of the deaths from consumption. The report says:

It is clearly the duty of the sanitarian and the worker in the field of preventive medicine to do what in him lies toward education in the precepts of healthful living. A simpler housing, with abundant facilities for the access of sunshine and fresh air, and space enough for each individual; a simpler raiment, which shall preserve the natural power of the skin to resist the effects of draughts and chills and "colds"; a simpler dietary, which shall not overtax the digestive system, and less cookery so that the teeth may have sufficient exercise to prevent their premature decay; more exercise in the open air and, in general, a resort to the simpler and more natural modes of life to which each and every one of us was born, and out of which each and every one of us is removed as promptly as civilization can act.

Pure Milk Saves Babies.—Over 190,000 bottles of sterilized milk were distributed as the first season's work of the milk commission of the Children's Hospital Society. From 31 substations supplies have been distributed daily to thousands of poor people all over Chicago. At the social settlements, dispensaries and hospitals the following poster has been displayed:

Fifty per cent. of children die when less than 5 years old, principally because of improper feeding. Pure pasteurized milk for babies of all ages and conditions sold at cost.

Health Commissioner Reynolds' opinion of the value of the work is indicated by the following letter addressed to Mrs. George M. Moulton, chairman of the distributing committee:

I am greatly pleased at the opportunity afforded me—by your request for the mortality figures of children under 5 years of age during the summer of 1903—to express my appreciation of the commission's work.

During the season there were 2,385 deaths of this age, or 12.6 per 10,000 of the total population. In the summer of 1902 the proportion of such deaths was 13.3, and in that of 1901 was 14.3 per 10,000.

The reduction this year is especially significant in view of what was expected as a result of the single daily delivery of milk. Children's physicians and sanitarians were apprehensive of a murderous increase of child mortality through the feeding of milk from 48 to 60 hours old before it reached the young.

Fortunately this apprehension was not realized, chiefly, as I am convinced, through the 190,000 bottles of sterilized milk distributed through your commission.

The community, and especially mothers in the congested districts, owe you and your colleagues a debt of gratitude.

MARYLAND.

Typhoid at Insane Hospital.—There are five cases of typhoid fever at Springfield Hospital for the Insane at Sykesville. Dr. Clark thinks it was introduced by an attendant as the water supply is above suspicion.

Baltimore.

Lectures on History of Medicine.—The course on the history of medicine at the University of Maryland began on October 28 and will continue during the session on the second and fourth Wednesdays of the month.

Public Baths a Success.—Public bathhouse No. 3 will be begun shortly. There were 1,800 more persons using the baths in October, 1903, than in October, 1902. Mr. Henry Walters has given \$93,000 for the baths.

Changes at Woman's College.—At the Woman's Medical College the following changes are announced: Dr. H. Warren Buckler has been appointed professor of practice of medicine

and therapeutics, Dr. Henry Lee Smith professor of medicine, and Dr. J. H. Mason Knox professor of diseases of children.

Antitoxin Lowers Diphtheria Mortality.—Dr. W. Royal Stokes, city bacteriologist, in a recent address, said that since the introduction of the public distribution of diphtheria antitoxin, the rate of mortality from this disease in Baltimore has fallen from 50 per cent. in 1894 to 13 per cent. at the present time.

Vital Statistics.—There were 148 deaths last week, a proportion per 1,000 of 13.95, and for the whites alone of only 12.57. Typhoid fever caused three deaths. During October 770 deaths and 731 births were reported. There was 1 death from smallpox. Typhoid fever was much less prevalent than in 1902.

Suing and Sued.—Dr. George A. Strauss has sued the United Railways and Electric Company for \$10,000 damages for fracture of an arm and ribs received in the premature starting of a car.—Drs. John W. Chambers and Thomas S. Latimer have been sued for \$25,000 damages by a woman who was operated on at the City Hospital.

Personal.—Dr. Charlotte Murdoch has been made superintendent of the Deaconesses' Home recently established by the Presbyterian Church in Baltimore.—Dr. Ernest C. Leonard has been made lecturer on materia medica at Maryland Medical College.—Dr. A. K. Hadel has been elected president of the Society of the War of 1812.—Dr. John T. O'Mara, resident physician of St. Agnes' Sanitarium, sailed for Vienna, November 5.

MASSACHUSETTS.

Cornerstone Laid.—The cornerstone for the new Deaconess Hospital, Longwood, Boston, was laid with appropriate ceremonies, November 5.

Poisoned by Belladonna.—On the night of October 27 eleven patients in the State Hospital at Tewksbury were in some unknown way poisoned by belladonna. There were no serious results and the accident is being investigated by the superintendent.

Music for Hospital Patients.—During November a company of musicians under the direction of Dr. John Dixwell is giving concerts at the hospitals of Cambridge and Somerville, the Massachusetts General Hospital and the Insane Hospital at Forest Hills.

Nursing Taught in Public School.—For the first time in the public schools of America nursing is one of the subjects taught. The school is the Evening High School in Charlestown, and the teacher, Dr. Laura A. C. Hughes, is president of the Boston Society of the Red Cross Association.

Tufts Medical School News.—Tufts Medical School begins the year with 412 students, an increase of 23 over last year.—Dr. Harold Williams, dean and professor of theory and practice, has a leave of absence for 10 months. His lectures will be given by Dr. Robert W. Hastings.

Typhoid in Springfield.—Typhoid fever has been somewhat prevalent in Springfield, especially in that portion of the city known as the "McKnight District." The source was traced to an infected spring from which many children drank. The disease has hence affected more than ordinarily the children of the well-to-do families in this residence district.

For New Floating Hospital.—Earnest efforts are being made to secure funds for the construction of a new Boston Floating Hospital. The old boat is too small, and will require a large outlay to make her safe for another season. More than \$12,000 has already been subscribed. The annual meeting of the hospital corporation on November 2 resulted in the reelection of the old officers.

Death and Disease.—For the four weeks ended November 7 there were 724 deaths in Boston, a decrease from last year's record of 162. There were reported to the board of health, 262 cases of diphtheria, with 20 deaths; 91 of scarlet fever, with 4 deaths; 91 of typhoid fever, with 15 deaths; 246 of measles, with 5 deaths; 137 of tuberculosis, with 71 deaths; 61 deaths were reported from pneumonia, 3 from whooping cough, 67 from heart disease, 16 from bronchitis and 21 from marasmus, and one case of smallpox, imported from Bangor, Maine. The latter is the first case of the disease to occur in the city since last spring.

MICHIGAN.

Conference of Health Officers.—The State Board of Health has decided to hold the annual conference of health officials at Ann Arbor, Jan. 7 and 8, 1904.

Board Elects Officers.—The State Board of Medical Registration has reorganized by the election of Dr. James H. Cowell, Saginaw, as president, and Dr. Beverly D. Harrison, Sault Ste. Marie, as secretary.

Sentence Deferred.—In the case of Dr. William W. Phippen, Grand Rapids, who pleaded guilty to the technical charge of practicing medicine without a license, the judge deferred sentence until January to give the defendant time to present proofs that the refusal of the State Board of Registration in Medicine to issue him a license was based on a misapprehension.

Outbreaks of Communicable Diseases for the Quarter.—The secretary has presented to the State Board of Health his report of work done in the office during the quarter ending September 30, 1903. This report includes a statement of the number of outbreaks of dangerous communicable diseases, reported and acted on during the quarter, as follows: Diphtheria, 95; measles, 99; whooping cough, 100; smallpox, 104; meningitis, 116; scarlet fever, 151; typhoid fever, 266; consumption, 369; total for the eight diseases, 1,300 outbreaks. Compared with the average in corresponding quarters in the ten years, 1893-1902, the reports from regular observers indicate that in the third quarter of 1903 diphtheria, pleuritis, scarlet fever and smallpox were more than usually prevalent, and meningitis, cholera infantum, cholera morbus, consumption, dysentery, erysipelas, intermittent fever and remittent fever were less than usually prevalent.

Diseases Which Householdors Are Required to Report.—The State Board of Health has prepared a circular in which it is declared that consumption, pneumonia, cerebrospinal meningitis, typhoid fever, diphtheria, whooping cough, measles, scarlet fever, smallpox, glanders, and rabies are dangerous communicable diseases, and therefore "diseases dangerous to the public health," required by law to be reported. Every case of each of these diseases must be reported to the local health officer by the householder, hotel keeper, boarding-house keeper or physician. The law is then quoted showing the duty of such persons to so report. The use to be made of such reports is not the same for all diseases, because the manner of spreading and the measures for the restriction are not the same for all diseases. Houses infected with some diseases are to be placarded, with others not. Persons having some of the diseases are to be isolated. Relative to each of those diseases, such facts are published by the State Board of Health, and a pamphlet on any one of these diseases, or on all of them, will be sent to any person interested, who requests it from the office of the board at Lansing.

MISSISSIPPI.

Personal.—Dr. L. B. Neil, Raymond, has been appointed third assistant physician of the State Insane Hospital, Jackson.

Wants Bureau of Vital Statistics.—Dr. Harris A. Gant, Jackson, president of the State Board of Health, will appeal to the legislature to establish a bureau of vital and mortuary statistics, and also a state bacteriologic laboratory.

Unlicensed Practitioners.—The State Board of Health will hereafter publish the names of unsuccessful applicants in examinations for license to practice. These have heretofore been withheld because of consideration for the feelings of the unsuccessful applicants. The board has found that some of these have entered into practice in defiance of the board and will, therefore, make public the names.

NEBRASKA.

Insane from Drugs and Liquor.—Dr. James C. Dwyer, Valentine, has been adjudged insane and ordered to be committed to the State Insane Hospital. His condition is said to be due to intoxicating liquor and drugs.

Personal.—Dr. John C. F. Bush, Wahoo, has returned from Europe.—Dr. Andrew Johnson, Beatrice, has moved to Wahoo.—Drs. J. F. B. Kalol and Nicholas F. Steiner, Omaha, sailed for Europe, October 17.—Dr. Henry L. Akin, Du Bois, has gone to Vienna.

Society Meets.—The fourth quarterly meeting of the Saunders County Medical Society was recently held at Wahoo. Drs. W. J. Pinkerton, Mead, and J. M. Willis, Colon, read papers, and Drs. Andrew Johnson, Wahoo, J. G. Smith, Weston, and Charles W. Hickey, Ithaca, were admitted to membership.

NEW JERSEY.

Hospital Benefit.—The benefit festival recently held to aid the German Hospital Society of Newark netted \$2,188.84 to the hospital fund.

Physician Fined.—In the case of Dr. Robert C. Ribbans, Newark, charged with having failed to report a case of smallpox, the court gave judgment for \$50, and the defendant gave notice of appeal.

Orthopedic Dispensary.—A free public orthopedic dispensary has been established in the Orange Valley section of Orange, by charitably disposed citizens. The work will be under the personal direction of Dr. Russel A. Hibbs, New York City, assisted by Dr. Henry A. Pulsford, South Orange.

Threatens Suit.—An Italian lawyer of Newark, whose name was by mistake included in a list of illegal advertisers of medicines, and who was, consequently, reported by the State Board of Medical Examiners as practicing without a license, has declared that a libel suit against the board will be necessary to set him right with his countrymen.

NEW YORK.

Prosecuted by Medical Society.—On the complaint of the Saratoga County Medical Society, Jeremiah Richards of Waterford was arrested, October 21, charged with practicing medicine without a license. He waived examination.

To Investigate Summer Resorts.—Dr. Daniel Lewis, state commissioner of health, will ask the legislature for an appropriation of \$10,000 to establish a new bureau in the department, to be known as the Bureau of Water Inspection and Drainage, with especial reference to summer resorts.

The D. W. Harrington Lectureship.—The medical faculty of the University of Buffalo has chosen Dr. Samuel J. Meltzer, New York, to deliver these lectures for 1903. The subject selected by Dr. Meltzer is "Edema, a Consideration of the Physiological and Pathological Factors Concerned in Its Formation." The lectures will be delivered in the medical college, November 30, and December 1, 2 and 3, at 5 p. m. Members of the medical profession are cordially invited to attend.

New York City.

Wanted for Medical Building.—In the "want list" of \$3,250,000 in the annual report of the chancellor of the New York University, an item of \$750,000 appears for medical college buildings.

Gypsy Illegal Practitioner.—Lottie Karl, a fortune teller and clairvoyant, was convicted, November 7, of practicing medicine without a license, and was sentenced to pay a fine of \$150 or to be imprisoned 60 days in the city prison. The complaint was made at the instance of the New York County Medical Association.

Endorses Health Commissioner.—A testimonial signed by 35 representative physicians of New York City has been sent to the daily press, expressing the great appreciation of the physicians of the city of the work accomplished by Health Commissioner Ernst J. Lederle and his advisory board in the last two years, and offering their public acknowledgments.

Control of Tuberculosis.—Dr. Hermann M. Biggs delivered a lecture at Columbia University, November 6, on "The Administrative Control of Tuberculosis." He declared that 60 per cent. of the deaths in New York were caused by tuberculosis, and that the mortality from this cause was especially great among tenement children at the age of four or five years.

Pavilion for St. Luke's Hospital.—Mrs. Margaret J. Plant has offered to build for the hospital a new pavilion in which private patients may have modern and even luxurious accommodations and service. It is purposed to provide accommodations for more than one hundred patients, so that, if desired, a patient may have a suite of rooms and may be attended by relatives or friends.

PENNSYLVANIA.

Verdict for Physician.—In the suit of Albert E. Foltz, Edison, for damages for alleged malpractice, against Dr. Allison A. Stamm of Mohnsville, the jury brought in a verdict for the defendant.

Smallpox.—Sharon has about 30 cases.—On November 2 four deaths occurred in Pittsburg, and four new cases were discovered.—Allegheny on the same day had 37 cases under treatment, 21 in the isolation hospital and 16 under quarantine.

Hospitals Completed.—The northern wing of the new Lancaster General Hospital has been completed, and is ready for occupancy.—Uniontown Hospital, erected at a cost of \$75,000, has been completed, accepted by the directors, and will soon be ready to receive patients.—Susquehanna City Hospital was formally opened October 10.

Land and Money to Hospitals.—By a decree of the Orphans' Court, the legacy of \$20,000 bequeathed by the late C. L. Magee, Pittsburg, to the late George M. von Bonnhorst, reverts to the Elizabeth Steel Magee Hospital fund.—Misses Alice and Mary Mossop have presented to Clearfield Hospital four acres of land and \$20,000 in cash, for the building of a model hospital as a memorial to Fred G. Mossop, a deceased brother, who was a director of Clearfield Hospital.

Personal.—Dr. John C. Calhoun, Allegheny, in charge of the isolation hospital, has resigned, and Dr. William H. Gardner has been appointed in his stead.—Dr. Daniel W. Jeffries, Chester, has been appointed state censor by the Delaware County Medical Society.—Dr. Horace F. Taylor, Chester, was seriously cut and burned by a bottle of carbolic acid breaking in his hands.—Dr. Frank C. Knowles, Philadelphia, is taking a three months' tour of Europe and Asia.

Chester Hospital Staff Organized.—At the annual meeting of the staff, October 20, Dr. J. L. Forwood was re-elected chief of the surgical staff and Dr. D. M. McMasters chief of the medical staff. Dr. F. Farwell Long was assigned as lecturer on special surgery; Dr. Ellen E. Brown, on obstetrics; Dr. J. L. Forwood, on general surgery; Dr. Katherine W. Ulrich, on diseases of children; Dr. F. Otis Bryant, on anatomy; Dr. Samuel R. Crothers, on emergencies; Dr. D. M. McMasters, on general medicine; Dr. Edward W. Bing, on materia medica; Dr. L. Haines Crothers, on hygiene, and Dr. Leon Gottschalk, on physiology.

Philadelphia.

Reception for Weir Mitchell.—The Medical Club of Philadelphia will tender a reception to Dr. S. Weir Mitchell at the Hotel Bellevue, November 20.

Dr. Filbert's Will.—By the will of the late Dr. Ludwig S. Filbert, the estate, which is appraised at \$300,000 or more, after the payment of a few small legacies, is divided equally between his wife, son and daughter.

Finsen Light Laboratory.—A specially constructed laboratory for x-ray and Finsen light research is being erected in connection with the University Hospital. At the last session of the legislature \$25,000 was appropriated for this purpose. Dr. Henry K. Pancoast will be in charge of the new department.

Personal.—Dr. James E. McCoy has been appointed physician to the medical dispensary of the Children's Hospital.—Dr. B. Franklin Stall has been appointed medical director of St. Agnes' Hospital, vice Dr. William H. Parish, deceased.—Dr. Leo Loeb has been appointed assistant demonstrator in pathology at the University of Pennsylvania.—Dr. Howard S. Anders has been made assistant professor of physical diagnosis in the Medico-Chirurgical College.

Smallpox Regulations.—The board of health recently passed a resolution directing all inmates of houses where smallpox develops to be removed to the Municipal Hospital for antiseptic baths and disinfection of clothing. The resolution provides for such disinfection in case of scarlet fever and diphtheria when the medical inspector deems it necessary. The action is especially to protect Director Martin from legal complications in carrying out such measures, as he has been several times threatened with suit for damages.

GENERAL.

The Army Medical School began its seventh annual session, November 3, with twenty-seven student officers in attendance. The faculty consists of the following officers: Col. Chas. Heizmann, president of faculty and professor of military medicine; Major William H. Arthur, professor of duties of medical officers in peace and war; Major William C. Borden, professor of military surgery; Major Walter D. McCaw, professor of military hygiene and lecturer on tropical diseases; Major James D. Glennan, ophthalmology and optometry; Captain F. P. Reynolds, instructor in hospital corps drill and medical department administration; Captain C. R. Darnall, secretary of faculty, instructor in sanitary chemistry and operative surgery; Lieutenant James Carroll, professor of bacteriology and clinical microscopy, and Captain H. G. Trout, instructor in equitation.

The Yellow Fever Scourge.—Thousands of cases of yellow fever in Mexico and hundreds in Texas are reported by the representative of the U. S. Public Health and Marine-Hospital Service. The death rate is about 5 per cent. A total of 748 cases and 74 deaths is reported at Laredo, Tex., up to November 9. Railroad schedules are interrupted and trains avoid infected towns or run through rapidly with car doors and

windows closed or else suspend passenger trains. Thus there is also scarcity of provisions in some places. The Little Rock (Ark.) Board of Health established a quarantine against San Antonio, Laredo and other infected points. Forepaugh's circus was also enjoined from stopping in Little Rock en route north from Texas. Other cities have quarantined against Texas cities. El Paso, however, has thrown wide open her gates and will receive yellow fever refugees or sufferers without restriction. This action was taken on the ground that the mosquito concerned in the propagation of yellow fever can not exist above 1,200 feet, especially in a dry climate. El Paso's elevation is 4,000 feet, and her air dry. It was, therefore, decided by the authorities of that city that no danger of the transmission of the disease exists there.

CANADA.

Smallpox in New Brunswick.—Fourteen cases of smallpox are reported in Madawasha County, N. B., on the border of the State of Maine.

Typhoid Fever in Manitoba.—This disease has been very prevalent this autumn in Manitoba and Winnipeg. In Winnipeg one of the Industrial Exhibition buildings has been converted into a hospital for 35 patients, with a house surgeon and a staff of nurses in charge.

Toronto's Health Statistics.—During October, 1903, there were 118 cases of diphtheria, 23 of scarlet fever and 18 of typhoid fever. The deaths from contagious diseases in Toronto during September and October were: Scarlet fever, one in each month; diphtheria, in September, 7; in October, 13; typhoid, 3 and 6; consumption, 28 and 19.

Druggists and Physicians Charged with Violations of Laws.—The Pharmaceutical Association of Quebec has laid charges in the police court against a number of Quebec physicians, accusing them of giving prescriptions to be filled by unlicensed druggists or unregistered drug clerks and also against several druggists for selling poisons to the public contrary to the provisions of the pharmacy act, and for permitting unqualified clerks to fill prescriptions.

Ontario Birth Rate.—The provincial board reports 47,796 births during 1902 in Ontario, as compared with 46,061 in 1901, or an increase of 1,735. The number of marriages in 1902 was 18,072, an increase of 37 over 1901. Deaths during 1902 numbered 27,864; in 1901 29,608, showing the substantial decrease of 1,744. Dr. Bryce, secretary of the provincial board, attributes the increased birth rate to the crusade instituted by the press of the country and by the ministers of all denominations against race suicide.

Manitoba Medical College Opens.—This college began its twenty-first consecutive session September 21 with the largest attendance in its history. There are over forty in the freshman class. The most particular feature of the Manitoba medical act is that there is no council examination for the graduates of the Manitoba University. All graduates of this university are licensed to practice on payment of the registration fee of \$75. The following changes in the staff have been made since last session: Dr. J. O. Todd has been elected to the chair of anatomy in succession to the late Dr. Neilson. Dr. James McKenty and Dr. James Pullar have been appointed assistant demonstrators in anatomy. Dr. W. L. Watt will conduct the practical and physiologic chemistry, and Mr. J. S. Pierce will teach the organic and inorganic chemistry.

Five-Year Medical Course in Quebec.—The Quebec Board of Physicians and Surgeons at a recent meeting decided to lengthen the medical course from four to five years. Another important item was the repealing of that section of the by-laws of the Quebec council which permitted men having British licenses to register and practice in the province of Quebec without having to undergo any further examination. A third question debated was the compulsory B. A. course, or "cours classique complet," before admission to the study of medicine in that province. The law in relation to this was so amended that the Catholic or French speaking candidate would have to pass such examination, but no change was made for the Protestant or English speaking candidate. These changes will be reported to the Quebec legislature, and the probability is that they will become law without alteration.

FOREIGN.

Plague at Rio de Janeiro is reported to the extent of 29 deaths and 52 new cases and 109 cases under treatment during the week ended November 5.

King Edward Sanatorium.—The cornerstone of the King Edward VII Consumption Sanatorium was laid November 3

at Midhurst, Sussex, Eng., by the king. One million dollars was given for this by Sir Ernest Cassel.

Another Case of Lethargic Sleep.—A young man in the province of Warsaw sank into a lethargic slumber last April and it has been impossible to arouse him. He awakens sufficiently to take a little liquid food every three weeks, and then succumbs at once to sleep.

International Congress of Applied Chemistry.—The committee in charge of the sixth congress, to be held at Rome in 1906, is already diligently at work. Professor Paterno was appointed president and the executive committee consists of Professors Piretti, Nasini, Ciamician and Menozzi.

Plan for Serum Institute in Germany.—The German authorities have about decided to found a serum institute for the nearly gratuitous distribution of antitoxins and serums for various diseases, and for research thereon. It is to be modeled on the lines of the Paris Pasteur Institute and will be called the Behring Institute.

Continental Anglo-American Medical Society.—The object of this association is purely social. The members are located mostly in the various European watering-places or in the large cities, and gather once a year for social intercourse. The fifteenth annual dinner was held at Paris, October 9, with thirty members in attendance.

Driven to Suicide by a Charlatan's Publications.—A comparatively young man committed suicide last month in Vienna. He left a farewell letter to his wife and children in which he stated that he had been driven to suicide by the knowledge that the affection from which he was a sufferer entailed insanity in time, adding "See Bilz's book."

The Operation on Emperor William.—The Emperor of Germany had removed from his larynx, November 7, a small pea-sized growth, which, according to the newspaper reports, was probably a simple papilloma. The operation was very simple and brief, and the growth is declared by the physicians in charge to have no suggestion of malignancy.

Italian Congress of Pathology.—This congress was held at Florence in October and appointed Milan as the place for the next meeting, which will be held during the spring of 1905. Professors Golgi and Foa were appointed a committee to confer with the German Pathologic Society in regard to whether the approaching congress could not be made international.

Subsidies for Authors.—The well-known "Military Medical Academy" at St. Petersburg appropriates annually nearly \$800 as a fund for professors in the academy who during the year have published text-books on their special branches of science. This year it was divided between Bechtereff and Kravkoff, as each had published a manual, the former on the functions of the brain, and the latter on pharmacology.

Medical Affairs in Constantinople.—A new medical school has been constructed at Constantinople, said to be a model. Prof. R. Rieder of Bonn has been in charge of the work, and the new building was to have been dedicated November 6. The sultan became convinced that the radical political element might find a footing in the new school, and he has consequently ordered the project to be abandoned. Professor Rieder returns to Bonn and the building stands vacant.

Antituberculosis Dispensary in Berlin.—Von Leyden announces that a dispensary is soon to be opened at Berlin, modeled on those in France and Belgium, for tuberculous outpatients alone. At first it is to be restricted to persons dismissed from the great Belzig sanatorium. They are to be kept track of and their environment made as favorable as possible, with supervision as to whether they continue to conform to the prophylactic measures recommended.

Heavy Fine for Failure to Find Symptoms.—A Spanish physician recently testified that he could detect nothing abnormal in a man who had apparently recovered complete health after a blow on the head. The injury had at first produced symptoms of slight concussion of the brain, but these had all subsided at the time of the medical examination. A few days later other physicians noticed the presence of symptoms of cerebral concussion and the first expert was fined by the court \$300 for false testimony. The *Siglo Médico* publishes a vigorous protest against this decision "which opens a new horizon of misfortune for the already sufficiently unfortunate medical class."

Progress in Peru.—Two members of the profession have been successively minister of the interior in Peru during the last year, Drs. D. Matto and M. C. Barrios. The former organized three maritime disinfecting stations at Paita, Callao and

Dr. Barrios assumed office last September, and within a week he had secured the passage of a law by the senate, organizing a national board of public health as a section of his department. Its duties are to be similar to those of our marine hospital service, with a director and a subdirector for the subsections of hygiene and demography. Peru, with nearly 1,000,000 square miles, has only 4,000,000 inhabitants, and the population has been declining or stationary for several years.

Campaign Against Charlatans and Proprietary Medicines in Germany.—The Cologne courts recently fined a "magnetopath" named Olfemann \$250 for his pretensions that he was able to cure all diseases. The same court (Landgericht) has also recently sent out a notice warning the public against "Warner's Safe Cure," which is being advertised extensively throughout the country. The notice enumerates the ingredients of the remedy and reiterates that there is no such thing as a universal medicine to cure all diseases, and that the price of the remedy, in question far exceeds the actual value of the ingredients. The public is therefore warned against purchasing this useless preparation (nutzloses Mittel). The local board of health at Carlsruhe has issued a similar notice in regard to 'Iluco' a much advertised oil remedy for prisms of all kinds, asthma rheumatism, etc., warning against its internal use on account of the danger of injury to the kidneys from its ingredients.

Professional Secrecy.—The national board of health at Buenos Ayres was recently consulted by the courts in regard to a suit brought by a physician against an estate for services rendered. The physician, in bringing the suit, enumerated the particulars of his services and demanded remuneration for conducting a premature delivery, curetting and after care. The patient was an unmarried woman, and the affair had been conducted at her request with complete secrecy. The board of health materially reduced the amount to be paid, and severely censured the physician for his lack of professional secrecy in the matter. The death of the patient in the interim was no excuse for proclaiming the details of the services rendered. They also censured him for conducting such an operation without insisting on the presence of another medical man. The action of the board was modeled on Brouardel's maxims, which it cites from his work, "La Responsabilité Médicale." Several pages are devoted to the case in the *Semana Médica* of September 17.

Recent Important Medical Congresses in Europe.—In Germany the Congress of Physicians and Naturalists was held at Cassel, September 20 to 26. This is the annual meeting of the association devoted to research and practice in the medical and allied sciences. The attendance is always well into the thousands. The principal feature this year was Behring's address on tuberculosis, which was reviewed on page 994. In France the congresses of surgery and urology have just concluded their sessions at Paris. The subjects discussed at the former were "Exclusion of the Intestine," with addresses by H. Hartmann of Paris and others, and "Bran Tumors." The subjects appointed for discussion at the Congress of Surgery next year are "Hematology from the Surgical Standpoint," with an address by Tuffier of Paris, and "Surgical Treatment of Biliary Cirrhosis," with address by Monprofit of Angers. The Congress of Urology discussed "Rebellious Cystitis" and "Surgery of the Genito-urinary Organs," with addresses by Imbert of Montpellier, Pasteau of Paris, and others, Professor Guyon in the chair. Among the communications presented on surgery of the genital organs and urethra was one by Dr. Cumston of Boston. Our French and German exchanges give full particulars of these congresses in their last and current issues.

[Researches are now being carried on in the Hygienic Laboratory of the Public Health and Marine Hospital Service on the etiology and pathology of smallpox and of other diseases. A building, thoroughly equipped, has recently been completed, and is now being used for the purpose. The Army Medical Department is also doing good work of this kind in connection with the Army Medical School. The lamented Walter Reed, at the time of his death, was engaged in some interesting work on smallpox. The laboratory connected with the Medical Department of the Army in Manila is doing good work in the investigation of tropical diseases.—Ed.]

Dosage of Carbolic Acid

NEW ORLEANS, LA., Nov. 2, 1903

To the Editor.—In an editorial in THE JOURNAL, October 31, you express surprise at the possibility of administering carbolic acid in more than 7-drop doses without grave results. I, too, had been taught to regard the internal administration of carbolic acid as a dangerous procedure until I became a surgeon in the British African service in 1893, where I learned that 15 drop doses often repeated afforded the best cure for the diarrhea and dysentery so prevalent and fatal along the west coast of Africa.

W. LAURENCE STEVENSON, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL PRACTICE IN SWITZERLAND

GUALALA, CAL., Oct. 29, 1903

To the Editor.—Will you kindly inform me, under Queries and Minor Notes in THE JOURNAL 1. If foreigners can take up medical practice in Switzerland? 2. The names of the medical journals in Switzerland and where they are published? ENQUIRER

ANS.—1. Foreigners must pass through some of the government examinations—the first, third and fourth—which are conducted in German and French and which are likely, we believe, to be rather thorough. One will probably also have to show a longer period of study of medicine than is demanded in this country. 2. At least three medical journals are published in Switzerland possibly more. The *Correspondenzblatt für die Schweizerische Aerzte*, the *Revue Médicale de la Suisse Romande* and the *Bull. Internationale de la Soc. de la Croix Rouge*. The first is published in Basle, the other two in Geneva.

SADISM

DETROIT, Nov. 4, 1903

To the Editor.—In THE JOURNAL, October 31, p. 1098, under "A Warning to Wealthy Parents" there occurs the phrase "proved to be a typical case of extreme sadism." The last word is a new one to me. neither the Standard nor Century dictionaries have it. Can you give its true meaning and derivation? There may be others who do not like to pass over words that are new to their vocabulary.

G. C.

ANS.—The word means a sexual perversion which obtains satisfaction in inflicting cruelty on others. It is derived from the Marquis de Sade a historical example of this type, and himself an author of works on sexual matters published in the latter part of the eighteenth century.

Correspondence.

A National Research Laboratory.

MILTON, KY., Oct. 28, 1903

To the Editor.—Your endorsement of the Smallpox Research Laboratory in Cleveland (THE JOURNAL, Oct. 24, 1903, p. 1029) is commendable and justified. Would it not be better to have a national laboratory, under the auspices of a department of health, for studies on the etiology and pathology of all contagious and infectious diseases? Does not this work in Cleveland and Boston emphasize the need of the strong arm of the government to prosecute this important work?

S. E. HAMPTON, M.D.

Marriages.

CHARLES H. AYLING, M.D., Gridley, Ill., October 28
OLIVER P. COE, M.D., to Miss Kathryn Hunter, both of Cincinnati, November 11

CLARK A. BUSWELL, M.D., Chicago, to Miss Emma Rink of Elgin, Ill., November 4

EMORY M. GOODWIN, M.D., to Miss Edith Shumway, both of Glenville, Ohio, October 27

BENJAMIN D. MOSHER, M.D., to Miss Minnie Healy, both of Troy Grove, Ill., October 23

ELMA L. JAMES, M.D., Madison, Wis., to George H. Townsend of Dayton, Ohio, October 29

LOUIS T. SAFFI, M.D., San Jose, Cal., to Miss Nancy Wallace of Woodland, Cal., October 21

JAMES V. MAY, M.D., to Miss Viola Florence Pickett, both of Wautoma, Wis., October 29.

ENOCH SAMUEL COOPER, M.D., Peachtree, Ala., to Miss Louise Rosine Krudop of Mobile, October 28.

J. ROYSTON GREEN, M.D., Baltimore, to Miss Mary Chew Grason, at Towson, Md., October 28.

ROBERT JAMES CHRISTIE, JR., M.D., to Miss Edith Eliza Turner, both of Quincy, Ill., October 26.

RICHARD LAWRENCE CAMPBELL, M.D., East St. Louis, Ill., to Miss Leva A. Crane of Pekin, Ill., October 29.

T. JACOB SMITH, M.D., Princess Anne, Md., to Miss Sophonisba P. Handy, at Schoharie, N. Y., October 27.

ORVILLE WALD WILSON, M.D., Clearfield, Pa., to Miss Lottie Idella McCloskey, of Lock Haven, Pa., October 29.

ANDREW A. BRADFORD, M.D., Cambridge, Ohio, to Miss Alice E. Elder of Bremen, Ohio, at Columbus, October 22.

JESSE W. INGRAM, M.D., Whatcom, Wash., to Miss Anna Grace Newmyer of Spokane, Wash., at Walla Walla, Wash., October 23.

Deaths.

Julian J. Chisolm, M.D. Medical College of the State of South Carolina, Charleston, 1850, died at Petersburg, Va., November 2, aged 73. After studying abroad he began practice in Charleston, and by his early recognized ability rose to the professorship of surgery in 1858. In the Civil War he obtained the first medical appointment and also treated the first wounded in the war (at Fort Sumter). He was the author of a "Manual of Military Surgery," which was the official text-book of the Confederate surgeons. He resumed his chair in 1865, but removed to Baltimore in 1869, and was at once made professor of operative surgery and diseases of the eye and ear in the School of Medicine of the University of Maryland. He was also dean of the faculty from 1869 to 1874. In 1873 he gave up surgery and devoted himself thenceforth exclusively to his specialty, in which he achieved an international reputation. He was a most prolific writer, a skillful operator and a man of extraordinary energy. He was a born teacher. He was chairman of the ophthalmologic section of the International Medical Congress of 1887. The great work of his life was the founding in 1877 of the Presbyterian Eye, Ear and Throat Hospital of Baltimore, one of the largest special hospitals in the country. In 1894, shortly after a trip to Europe, he was stricken with apoplexy and aphasia, and his active work ceased. He then gradually failed until his death.

William Reed McMahan, M.D. Rush Medical College, Chicago, 1868, one of the most prominent practitioners of southern Indiana; a veteran of the Civil War; in 1882, 1883 and 1884 professor of pathology in the Evansville (Ind.) Medical College; for 18 years chief surgeon of the Louisville, Evansville and St. Louis Railway; for two years consulting surgeon of the Lexington and St. Louis division of the southern railway system; a member of the American Medical Association; in 1903 first vice-president of the Southern Railway Surgeons' Association; one of the founders of the Dubois County Medical Association, and a member of the Indiana State Medical Society, died from apoplexy at his home in Huntingburg, Ind., October 23, aged 60. He was for two years president and for six years a member of the board of control of the Indiana Southern Hospital for the Insane.

Robert Wood Mitchell, M.D. Tulane University, New Orleans, 1856, a member of the American Medical Association, American Public Health Association, Medical Society of the State of Tennessee, Memphis and Shelby County Medical Society and National Board of Health, professor of materia medica in Memphis Medical College, founder of the City Hospital, Memphis, secretary of the local board of health, during the Civil War regimental, brigade and division surgeon in the Confederate service; a pioneer practitioner of Memphis, who performed faithful work in yellow fever epidemics and was made one of the board appointed by congress to investigate the cause of yellow fever, died at his home in Memphis, November 2, from heart disease, after a brief illness, aged 71.

Simon Pollak, M.D. University of Vienna, Austria, 1835, the oldest practitioner of St. Louis; a member of the American Medical Association; one of the founders of the Missouri State School for the Blind, who opened, in 1861, the first eye and ear clinic west of the Mississippi, died at his home in St.

Louis, October 31, aged 90. During the Civil War he served on the U. S. Sanitary Commission. He was many times treasurer and once president of the St. Louis Medical Society. Dr. Pollak was one of the quartet of St. Louis veteran physicians in whose honor a banquet was given by the medical profession of the city on April 14 last.

Archibald Atkinson, M.D. University of Pennsylvania, Philadelphia, 1854, afterward a student in Dublin and Paris for two years; brigade surgeon in the Confederate service during the Civil War; professor of materia medica and therapeutics in the College of Physicians and surgeons, Baltimore, and later in the Baltimore Medical College, died at his home in Baltimore, October 29, from Bright's disease, aged 71.

Leon de Chesne, M.D. University of Louvain, Belgium, 1879, a member of the American Medical Association and the Wisconsin State Medical Society, and for thirteen years a prominent practitioner of Sturgeon Bay, Wis., died at Presbyterian Hospital, Chicago, October 28, from carcinoma of the tongue, after an illness of nine months, aged 51.

Lorenzo Traver, M.D. Albany (N. Y.) Medical College, 1857, surgeon U. S. Navy until 1868, and thereafter a resident of Providence, R. I.; a member of the American Medical Association, Rhode Island Medical Association and Providence Medical Association, died at his home in Providence, October 24, aged 69.

Stephen L. Blachly, M.D. Jefferson Medical College, Philadelphia, 1870, for fifty years a practitioner in Washington County, Pa., and for several years president of the county society, died at his home in Wilkinsburg, Pa., October 28, after a long illness, aged 87. He retired from active practice in 1890.

Joseph Billings Morton, M.D. College of Physicians and Surgeons, New York, 1849, the oldest practitioner in New Jersey, who for several years had compiled the weather reports for the Signal Service Bureau of Elizabeth, died at his home in that city, November 2, aged 77.

Wakeman Briarly Munnikhuisen, M.D. University of Pennsylvania, Philadelphia, 1869, a surgeon in the German army during the Franco-Prussian War, died at his home in Belair, Md., October 27, from paralysis, after a partial invalidism of two years, aged 59.

A. D. Binker, M.D. Long Island College Hospital, Brooklyn, 1864, formerly assistant surgeon Third Company U. S. Heavy Artillery, died at his home in Miller's Eddy, West Monterey, Pa., October 27, after a short illness from neuralgia of the heart, aged 78.

Bernard A. Daly, M.D. University College of Medicine, Richmond, Va., 1899, died at his home in Newark, N. J., November 2, from septicemia, resulting from a slight wound received during a surgical operation, four weeks before, aged 27.

John B. Weaver, M.D. Michigan College of Medicine, Detroit, 1881, died suddenly in the City Hall, Lansing, Mich., October 31, aged about 50. Death is supposed to have been due to rheumatism of the heart.

Thomas James Davis, M.D. University of Vermont, Burlington, 1885, superintendent of Charity Hospital, formerly McKane Hospital, Savannah, Ga., died at Sheepshead Bay, N. Y., November 5.

Benjamin Elmore Kell, M.D. Bellevue Hospital Medical College, New York, 1890, of Chester, S. C., died, October 30, at the home of his father, Dr. James T. Kell, Ardreys, N. C., after a long illness.

Robert C. Downey, M.D. Starling Medical College, Columbus, 1864, surgeon of the Thirteenth Ohio Volunteer Cavalry in the Civil War, died at his home in Caldwell, Ohio, October 22, aged 69.

Joseph T. Battle, M.D. Medical College of Georgia, Augusta, 1868, died at his home in Highland Park, Montgomery, Ala., October 22, from rheumatism, after an illness of several days.

Patrick Curran, M.D. Rush Medical College, Chicago, 1878, of Chicago, died at Fort Worth, Texas, where he had gone a year ago for the benefit of his health, October 28, aged 75.

Harvey P. Cox, M.D. University of Louisville, Ky., 1876, of Mackville, Ky., died at the Gray Street Infirmary, Louisville, October 29, from cirrhosis of the liver, aged 51.

Albert U. Evarts, M.D. Louisville Medical College, 1871, died at his home in Laporte City, Iowa, November 3, after a short illness, from Bright's disease, aged 60.

Caleb C. Libby, M.D., a member of the state senate, died at his home in East Pittston, Me., October 27, from kidney disease, after a long illness, aged 56.

Silas Edwin Akers, M.D. University College of Medicine, Richmond, Va., 1898, died at his home at Willis, Va., October 22, from typhoid fever, aged 31.

R. R. MacFarlane, M.D. Trinity College, Toronto, of Seattle, Wash., and Dawson, N. W. Territory, was found dead on a train in Montana, October 24.

Louis Ronchi, M.D. Royal Medical College, Rome, Italy, was asphyxiated by gas at his boarding house in New York, November 3.

E. B. Williams, M.D., died at Nome, Alaska, September 11, from heart disease, aged 48.

Deaths Abroad.

Otto J. F. Nasse, M.D., professor of pharmacology and physiologic chemistry at Rostock from 1880 to 1899, died at Freiburg, October 20. He was a prolific writer on his specialty, and besides his contributions to *Pflüger's Archiv* and other periodicals he published works on the physiology of peristalsis and on the striped muscle substance. His successor at Rostock is Prof. Rudolf Kobert, whose name is also well known by his numerous publications.

D. Tibone, M.D., one of the most prominent gynecologists of Italy, died suddenly at Rome, October 7, aged 70. He had been professor of obstetrics and gynecology at Turin for thirty-eight years.

Friedrich Betz, M.D., died at Heilbronn, October 19, aged 84. He founded the medical journal, *Memorabilien*, in 1856, and conducted it until last year, when its suspension was announced.

R. Seccondi, M.D., professor of ophthalmology at Genoa and a prominent member of the Italian senate.

Miscellany.

CLIPPINGS FROM LAY EXCHANGES.

ANTEMORTEM INQUEST.

"Dr. — of the State Board of Health was in town yesterday, to hold an inquest over —, who is suffering from small-pox."—*Houtzdale (Pa.) Citizen*, Oct. 9, 1900.

NEW INSTRUMENT.

"Dr. — . . . does not think the sleeping sickness is caused by a microbe, but by a trypanosome belonging to the same group of parasites which attacks cattle."—*N. Y. Sun*, Nov. 1, 1903.

POSTMORTEM HEMORRHAGE CAUSES DEATH.

In the biennial report of Queen's Hospital, Honolulu, Hawaii, published in the *Honolulu Bulletin* of August 20, death is said to have been due, in one instance, to "post-mortem hemorrhage."

INVOLUTION.

"Dr. — of Chicago may take the work at Grand Avenue Chapel. . . . Dr. — is a converted physician, so he says, until a few years ago he practiced in —."—*Crawfordsville (Ind.) Journal*, September 21.

RENAL CHOLELITHIASIS.

"The many Vermillion friends of — learn with much regret of his serious condition with kidney trouble. He will submit to an operation in Chicago soon for the removal of a gallstone from his kidneys. . . ."

NASAL DYSMENORRHEA.

"Dr. — then read the next paper, which was entitled 'A New Treatment for Dysmenorrhea.' The chief treatment of this nasal infection was cocaine. . . ."—*Memphis (Tenn.) Report of Mississippi Valley Medical Association*.

NEW LOCALITY FOR CANCER.

"Prof. —, an eminent physician and member of the senate, publishes to-day a long article to demonstrate that — died of a tuberculosis cancer on the right hydrothorax."—*Rutland (Vt.) Evening News*, September 11, and other newspapers.

POST HOC, PROPTER HOC?

In a list of companies incorporated, published in the *New York Journal of Commerce*, Sept. 2, 1903, is "The Mutual

Medical Company—Objects: furnish medical attendance and subsequently bury the dead; capital \$2,000. Incorporators. . ."

AN ORACULAR JURY.

"A coroner's jury in Holly, in its verdict on the death of a suicide, found that 'the oracle of his heart was weak, and he would soon have died of rupture of the oracle if he had not taken his own life.'—*Grand Rapids (Mich.) Evening Press*, October 3.

MEDICAL STUDENTS CUT THROAT.

"—, who has been deaf and dumb for four years as the result of a mining accident . . . has been restored to speech and hearing by students of — Medical College, Chicago, . . . who cut —'s throat open and removed clots of blood and supplied him with artificial eardrums."—*Chicago Tribune*, October 26.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.
New Mexico Board of Health, Santa Fe, Dec. 7.
Examining Board of Medical Society of Delaware, Dover, Dec. 8.
Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.
Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.
Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16.
Medical Council, Philadelphia, Dec. 15.
Medical Examining Board of Virginia, Lynchburg, Dec. 15-18.
Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22, 23 and 24.

North Dakota Report.—The North Dakota State Medical Examining Board, at Grand Forks, October 6 to 8, held a written examination, at which 11 out of 14 applicants passed, a grade of 75 per cent. being required and questions being asked in 13 subjects.

PASSED.

COLLEGE.	Year Grad.	Per Cent.
University of Minnesota.	1903	78
University of Minnesota.	1903	85
University of Michigan.	1903	83
University of Christiania, Sweden.	1893	83
Hamline University.	1901	76
Kansas City Medical College.	1903	83
Northwestern University, Chicago.	1903	92
Harvard Medical School.	1900	82
Hering Medical College, Chicago.	1903	79
Johns Hopkins University, Baltimore.	1902	81
College of Physicians and Surgeons, Chicago.	1903	76
FAILED.		
College of Physicians and Surgeons, Keokuk.	1902	65
College of Physicians and Surgeons, Keokuk.	1897	70
Starling Medical College, Columbus.	1897	72

Idaho Report.—Dr. R. L. Nourse, Hailey, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, October 6 to 8, as follows: Subjects, 12; questions, 120; percentage required, 75; examined, 24; passed, 19; failed, 5.

PASSED.

COLLEGE.	Year Grad.	Per Cent.
Columbia University, New York.	1898	87
Barnes Medical College, St. Louis.	1903	80.6
Barnes Medical College, St. Louis.	1903	78.1
Hahnemann Medical College, Chicago.	1902	75.6
Jefferson Medical College, Philadelphia.	1902	76.6
Jefferson Medical College, Philadelphia.	1896	79.2
Beaumont Medical College, St. Louis.	1901	82.6
Creighton Medical College, Omaha.	1902	92.6
University of Michigan.	1903	87
College of Physicians and Surgeons, Chicago.	1893	86.0
Rush Medical College, Chicago.	1903	78.3
Rush Medical College, Chicago.	1901	89.3
Northwestern University, Chicago.	1902	84.9
Harvey Medical College, Chicago.	1901	76.9
Keokuk Medical College, Iowa.	1892	84.3
University of Colorado, Boulder.	1901	84.5
University of Colorado, Boulder.	1903	86.3
University of Colorado, Boulder.	1903	79.2
University of Minnesota.	1901	80.9
FAILED.		
Kansas Medical College, Topeka.	1895	65.2
Jefferson Medical College, Philadelphia.	1895	74.3
Kentucky School of Medicine, Louisville.	1879	35.9
College of Physicians and Surgeons, Kansas City.	1902	61.6
Rush Medical College, Chicago.	1902	74.6

Georgia Report.—Dr. I. H. Goss, Athens, secretary of the Georgia State Board of Medical Examiners, reports the written examination at Atlanta, October 13, as follows: Number of subjects examined in 10; total questions, 56; percentage required to pass, 75; examined, 27; passed, 25; failed, 2.

PASSED.

COLLEGE.	Year Grad.	Per Cent.
Atlanta College of Physicians and Surgeons.....	1903	*76
Atlanta College of Physicians and Surgeons.....	1903	76
Atlanta College of Physicians and Surgeons.....	1903	85
Atlanta College of Physicians and Surgeons.....	1903	75
Atlanta College of Physicians and Surgeons.....	1903	75
Atlanta College of Physicians and Surgeons.....	1903	75
Leonard Medical College.....	1903	70
Leonard Medical College.....	1903	75
Johns Hopkins Medical College.....	1900	80
Jefferson Medical College.....	1903	85
Jefferson Medical College.....	1903	84
Univ. and Bellevue Hospital Med. College, New York..	1903	84
Univ. and Bellevue Hospital Med. College, New York..	1903	85
Tulane University.....	1903	88
Baltimore College of Physicians and Surgeons.....	1903	85
Baltimore College of Physicians and Surgeons.....	1903	82
Grant University.....	1903	78
Meharry Medical College.....	1903	77
University of Maryland.....	1903	86
University of Maryland.....	1903	81
University of Maryland.....	1903	84
University of Georgia.....	1899	75
University of Louisville.....	1903	88
Vanderbilt University.....	1894	78
Southern Medical College.....	1894	84

FAILED.

Atlanta Medical College.....	..
Atlanta Medical College.....	..

* Second examination.

Association News.

New members for the month of October, 1903.

ALABAMA.

Duncan, W. P., Birmingham.

ARKANSAS.

Breathwit, William, Draughton.
Moorhead, W. H., Stuttgart.
Tarkington, A. R., Hot Springs.
Wyatt, William A., Rosie.

CALIFORNIA.

Spalding, O. B., San Francisco.
Campbell, Mary P., San Francisco.
Meyer, J. H., San Bernardino.
Stivers, Charles G., Los Angeles.

COLORADO.

Jaffa, Perry, Trinidad.
Oertel, Henry B., Pueblo.
Gengenbach, F. P., Denver.
Davenport, R. G., Trinidad.
Kahn, S. G., Leadville.

CONNECTICUT.

Steele, H. M., New Haven.
Bailey, M. A., Hartford.
Bunce, Philip D., Hartford.
Dowling, John F., Hartford.

DISTRICT OF COLUMBIA.

Howard, C. Norman, Washington.

GEORGIA.

Oertel, T. E., Augusta.

ILLINOIS.

Reiterman, Charles, Chicago.
Rowan, Charles J., Chicago.
Zurawski, K. A., Chicago.
Pence, C. D., Chicago.
Armstrong, Guy L., Taylorville.
Fitzgerald, Frank, Morrison.
Dickerson, Jas. H., Taylorville.
Hill, T. F., Athens.
Alexander, John W., Oakland.
Pickard, W. S., Maywood.

INDIANA.

Ray, Frank E., Shelbyville.
Yencer, M. W., Boston.
Suttner, C. N., Elwood.
Pothulsje, P. J., Remington.

IOWA.

Welsh, F. E., Rutland.
Gullison, Andrew, Lake Mills.
Arenschild, F. M., Ottumwa.
Hughes, Sarah L., Burlington.
Weldon, H. G., Des Moines.
Kasten, W. C., Fort Madison.
Mulligan, W. W., Burlington.
Ely, Frank A., Des Moines.
Schwabland, W. T., Lester.
Huband, Charles E., Ottumwa.
Ebel, H. E., Buffalo Center.
Rogers, Arthur M., Wapello.

KANSAS.

Linley, Hubbard, Atchison.
Miller, William E., Muscotah.

KENTUCKY.

Ogilvie, R. W., Princeton.
Anderson, V. V., Barboursville.
Hall, G. C., Louisville.
Forsythe, W. H., Lexington.

LOUISIANA.

Cocker, George F., New Orleans.
Moss, A. H., Lake Charles.
Haydel, J. J., Plancherville.

MAINE.

Emmons, George P., Lewiston.

MARYLAND.

Getz, Charles, Baltimore.
Griffith, L. A., Upper Marlboro

MASSACHUSETTS.

Adams, G. E., Worcester.
Barrell, Mary E., Worcester.
Holbrook, R., West Newton.
Hazlett, Olive B., Malden.

MICHIGAN.

May, George A., Ann Arbor.
Lynam, T. P., Ironwood.
Cope, Charles S., Ionia.
Wilson, Walter J., Jr., Detroit.
Bender, Frederick P., Caro.
Haskins, Mary G., Detroit.
Lindbohm, Albert W., Ironwood.
Ganung, Cora Pope, Lansing.
Kenyon, Frank P., Plymouth.
Read, L. C., Grand Rapids.

MINNESOTA.

Hirschfield, M. S., Deer Creek.
Weston, C. G., Minneapolis.
Titus, Jerome H., Sacred Heart.

MISSISSIPPI.

Fountain, J. G., Pearllington.
Hunnicut, W. J., Poplarville.
Anderson, Jacob M., Itta Bena.

MISSOURI.

Moore, Roy D., Central.
Barnes, Algenon S., St. Louis.
McGill, W. J., St. Joseph.
Putman, Ola, Marcelline.
Pierpoint, J. E., Skidmore.
Viedt, E. J., Rockville.
Woolsey, N. B., Braymer.
Gleaves, O. G., St. Joseph.
Kirchner, Walter C. G., St. Louis.
Clark, Wm. A., Jefferson City.
Talbot, Hudson, St. Louis.
Thomas, C. E., St. Joseph.
Ayres, Samuel, Kansas City.
Burns, Robert, St. Louis.

NEBRASKA.

Lausling, L. A., Emerson.
Leahy, Bartholomew J., Jackson.
Johnson, Andrew, Beatrice.
East, W. S., Falls City.
Kelly, Thomas, South Omaha.
Schindel, Charles M., S. Omaha.
Walker, William H., Omaha.
Lake, Frederick W., Omaha.
Arnold, Harry L., Omaha.
Smith, Seymour H., Omaha.
Pollard, Charles W., Omaha.
Moore, J. C., Omaha.
Ludington, Paul H., Omaha.
Rix, Rudolph, Omaha.

NEW HAMPSHIRE.

Stickney, H. L., Manchester.

NEW JERSEY.

Dunlap, Thomas G., Atlantic City.
Marshall, Jos. C., Atlantic City.
Russell, Anthony B., East Orange.
Warner, W. B., Red Bank.
Wood, Frank M., Camden.
Reed, James J., Sea Bright.
Quinby, William O'G., Newark.
Leaver, Morris H., Quakertown.
Diverty, Henry B., Woodbury.
Houck, William J., Newark.

NEW YORK.

York, George W., Buffalo.
O'Neill, James M., Buffalo.
Corcoran, Walter J., Brooklyn.
Sanders, Jos. A., Clifton Springs.
Bainbridge, W. S., New York City.
Lambert, W. E., New York City.
Bennett, T. L., New York City.
Shepard, W. H., New York City.
Coe, J. W., New York City.
Kilmer, T. W., New York City.
Truman, Irving P., Hornellsville.
Meany, Edw., Ithaca.
Helwig, Frank A., Akron.
Cotton, John, Burnt Mills.
Cocke, Wm. I., Port Washington.
Butler, Andrew J., Unadilla.

OHIO.

Clark, F. S., Cleveland.
Hole, Charles M., Cleveland.
Moorehouse, Geo. W., Cleveland.
Stuart, Charles C., Cleveland.
Kaler, A. F., Columbus.
Pepper, L. C., Loramie.
Hannum, B. G., Cleveland.
Morris, W. E., Lisbon.
Goodman, S. J., Columbus.
McKittick, Llewellyn, Dublin.
Lewis, William F., Martinsburg.
Stout, J. J., Lubrig.
Taylor, Martin, Fort Recovery.
Moses, Jacob B., Crestline.
Cosler, Harry A., North Hampton.
Wittenmyer, J. M., Peebles.
Marquart, C. A., Crestline.

OKLAHOMA.

Rucks, William W., Guthrie.
Hamilton, W. S., Norman.

PENNSYLVANIA.

Booth, Bradford A., Pittsburg.
Heckel, E. B., Pittsburg.
Shaw, James P., Pittsburg.
Brown, John R., Pittsburg.
Burke, John G., Pittsburg.
Butler, Ralph, Philadelphia.
Rhoads, Edw. G., Philadelphia.
Peter, Luther C., Philadelphia.
Moore, John D., Philadelphia.
Megargee, Geo. L., Philadelphia.
Bledert, Chas. C., Philadelphia.
Currie, Thos. R., Philadelphia.
Piersol, Geo. A., Philadelphia.
Edsall, David S., Philadelphia.
Harland, W. G. B., Philadelphia.
Babbitt, Jas. A., Philadelphia.
Griscom, Mary W., Philadelphia.
McCombs, Robt. S., Philadelphia.
Hatfield, Chas. J., Philadelphia.
Traver, S. N., Steelton.
Gruber, Arthur B., Erie.
Lloyd, John H., Erie.
Haben, John F., McKeesport.

Bryant, F. Otis, Chester.
Mowery, Jacob L., Lancaster.
Snyder, Francis J., York.
Yagle, George N., Red Lion.
McLaughlin, C. M., Greencastle.
Brown, O. S., Warren.
Crandal, George D., Blossburg.
McKinley, H. Clay, Meyersdale.
Merryman, John W., Leonard.
Dunkle, Gally B., Washington.
Robinson, D. Guy, Forty Fort.
Haines, Samuel H., Bradford.
Shindel, Will L., Sunbury.
Kinard, George C., Lincoln.
Follmer, James B., Berwick.
Canfield, H. A., Bradford.
Wycoff, George R., Duquesne.
Brown, Alex. MacL., Franklin.
De Bashore, Simon, Palmyra.
Berge, William H., Avoca.
McKown, H. L., Tunkhannock.
Johnson, William M., Venango.
Casselberry, C. M., Pottstown.
Hend, Edw. M., Coraopolis.
Kubus, Harry B., Neale.
Pennell, H. Y., E. Downingtown.
Gaston, Ida E., Philadelphia.
Backenstoe, W. A., Emsus.
Young, James K., Philadelphia.
Bliss, A. A., Philadelphia.
Crueger, E. A., Philadelphia.
Cary, Ezra H., Prosperity.
Hitchler, W. A., Philadelphia.
Fleckenstine, H., Newportville.
Good, W. H., Philadelphia.
Gerhard, S. P., Philadelphia.
Pottberg, Charles, Philadelphia.
O'Reilly, Chas. A., Philadelphia.
Morton, T. S. K., Philadelphia.
Williamson, J. J. G., Philadelphia.
McCaraghy, A., Philadelphia.
Trever, C. W. L., Philadelphia.
Johnson, A. R., New Bloomfield.
Carr, William H., Lancaster.
Reynolds, J. Hervey, Bellevue.
Sumney, F. F., Dravosburg.
Rice, Daniel S., Hastings.
Pratt, C. Manville, Towanda.
Wright, Theodore, Dushore.

RHODE ISLAND.

Bacon, Edw. S., Providence.
Barker, Christopher F., Newport.
Jordan, William H., Providence.
Ecroyd, Henry, Newport.

SOUTH CAROLINA.

Hofman, Van Telburg, Sumter.

SOUTH DAKOTA.

Tilton, A. L., Leslie.

TENNESSEE.

Rice, John C., Braden.
Tucker, R. O., Nashville.
Wilson, Henry B., Chattanooga.
Branch, Benj. L., Collierville.

TEXAS.

Martin, J. M., Hillsboro.
Palmer, Hal J., Yarbore.
Whitworth, Albert J., Yarbore.
Wagner, Steven V., Houston.

UTAH.

Condon, A. S., Ogden.

VIRGINIA.

Dalton, Martin L., Floyd.

WASHINGTON.

Hastings, William C., Seattle.

WEST VIRGINIA.

Fox, Joseph A., Hinton.

WISCONSIN.

Conroy, J. M., Neffsville.
Herron, Allen L., Milwaukee.
Sandborn, M. J., Appleton.
Vollmer, Alfred M., Superior.
Shaw, A. O., Ashland.
Sauerharing, Douglas L., Wausau.
Pomalinville, F., Grand Rapids.
Dogherty, C. F., Muscoda.
Jones, John R., Randolph.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the week ending Nov. 7, 1903:

Brooks, William H., asst.-surgeon, ordered to proceed from Fort Walla Walla, Wash., to accompany the Artillery, en route to Fort Snelling, Minn. This duty, granted thirty days' leave of absence. On Rand, Irving W., asst.-surgeon, granted thirty days' leave of absence, with permission to apply for thirty days' extension.

Greenleaf, Henry S., asst surgeon, relieved from further duty at Presidio of San Francisco, Cal., and ordered to Fort Moultrie, S. C.

Henderson, A. B., asst surgeon, ordered before Army retiring board at Denver, Colo.

Roberts, William, asst surgeon, granted three months' sick leave on arrival of medical officer at Fort Brady, Mich.

Howard Deane C., asst surgeon, ordered to U. S. Army General Hospital, Washington Barracks, D. C., for duty.

Patterson, Edwin W., contract surgeon, serving in the Division of the Philippines, granted leave of absence for three months in the United States.

Stoney, Randall C., contract surgeon, relieved from temporary duty at Fort Dupont, Del., and ordered to Fort Revere, Mass. for temporary duty, relieving Contract Surgeon Raoul A. Amador, U. S. A., granted leave of absence for one month and fifteen days.

Ames, Roger P., contract surgeon, relieved from duty at Fort Barrancas Fla. and assigned to duty at Fort McIntosh Texas.

Hogan, David D., contract surgeon now on two months leave from the Division of the Philippines, has been granted an extension of leave of one month.

Baker, Charles L., contract surgeon, relieved from duty at Fort Baker, Cal. and ordered to Camp McKinley, Honolulu, H. I.

Burr Rollin T., contract surgeon returned to duty at Cabana Barracks, Havana, Cuba, from temporary duty at Headquarters Artillery Forces in Cuba, where he has been since February last.

Woods, Oscar W., contract surgeon, relieved from temporary duty at Fort Caser, Wash., and ordered to Fort Wright, Wash.

McCall, James H., contract surgeon, returned to his station, Columbia Arsenal Tenn., from duty at Camp Young, West Point, Ky. and accompanying troops to Fort Sheridan Ill.

Rhoades Rex H., contract dental surgeon relieved from duty at Fort Leavenworth Kas., and ordered to the Philippines for duty.

Fisher, William C., contract dental surgeon, ordered from Fort Sheridan, Ill., to Fort Wayne, Mich.

Stone Frank P., contract dental surgeon, ordered from the Philippines to the General Hospital, Presidio of San Francisco, for treatment.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Nov 7, 1903.

Elliott, M. S., surgeon, ordered to the Naval Hospital Norfolk Va.

Evans, S. G., surgeon detached from Naval Hospital, Norfolk Va., and ordered to the U. S. S. *Cleveland*.

Wheeler, W. M., surgeon detached from the Naval Hospital, Newport R. I. and granted leave of absence for thirty days.

Blackwell E. M. P. A. surgeon detached from the U. S. R. S. *Hancock* and ordered to the U. S. S. *Castine*.

Spear, R. P. A. surgeon, detached from the U. S. S. *Whetling* and ordered home to await orders.

Odell, H. E. P. A. surgeon detached from the Naval Hospital, Norfolk, Va. and ordered to the U. S. S. *Whetling*.

Murphy, J. A., asst surgeon, ordered to the Navy Yard, Washington, D. C.

Richardson F. A., A. A. surgeon, ordered to the Naval Hospital Newport R. I.

Schwerin, L. H. A. A. surgeon detached from the U. S. S. *Yankee* and ordered to the U. S. S. *Southerly*.

Elmer, M. K., asst surgeon detached from the U. S. R. S. *Independence* and ordered to the U. S. T. S. *Pensacola*.

Dabner, V. A., A. A. surgeon, detached from the U. S. T. S. *Pensacola* and ordered to duty with Recruiting Party No. 4.

Chapman R. B., A. A. surgeon, detached from duty with Recruiting Party No. 4 and ordered to the Navy Yard Mare Island Cal.

Taylor, E. C., and I. S. K. Reeves asst surgeons, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marsteller D. H., surgeon, ordered to the U. S. S. *Columbia*.

Kennedy J. P. A. surgeon, commissioned passed assistant surgeon with rank of lieutenant.

Onesorg, K. P. A. surgeon commissioned passed assistant surgeon with rank of lieutenant from March 3, 1903.

Miller, J., and I. E. Campbell asst surgeons ordered to Naval Museum of Hygiene and Medical School, Washington D. C.

Hugh W. E. G., asst surgeon, ordered to the U. S. T. S. *Constellation*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the two weeks ended Nov 3 1903.

Surgeon J. M. Cassaway granted extension of leave of absence for one month from October 13.

Surgeon P. C. Killoch, to proceed to Dorchester, Mass., for special temporary duty.

Surgeon S. D. Brooks detailed as inspector of the Marine Hospital and unseizable property at Mobile Ala.

Surgeon H. R. Carter, granted leave of absence for one day, Oct 29, 1903 under paragraph 189 of the Regulations.

Assistant Surgeon General G. T. Vaughan appointed as member of committee to consider and report on the matter of uniforms and insignia for officers and employees of the Customs Service.

Asst Surgeon W. C. Billings relieved from duty at Quebec, Canada and assigned to duty in the office of the U. S. Commissioner of Immigration at St. Johns, N. B.

Asst Surgeon J. W. Kerr, granted leave of absence for two days from Oct 18 1903 under paragraph 191 of the Regulations. Relieved from duty at the Immigration Depot, New York and directed to proceed to Duluth, Minn., for temporary duty as medical inspector of aliens.

Asst Surgeon H. A. Stansfield granted leave of absence for ten days. On expiration of leave to report at Bureau Washington D. C.

Asst Surgeon C. W. Willie relieved from duty at Philadelphia and directed to proceed to Baltimore and report to medical officer in command for duty and assignment to quarters.

Asst Surgeon J. S. Roggess, granted leave of absence for three days from November 3.

P. A. Surgeon J. C. Perry, to proceed to Lexington, Va. for special temporary duty.

P. A. Surgeon J. A. Nydegger, Bureau letter of Oct 10, 1903, granting him leave of absence for one month, amended so that leave shall be for twenty-nine days from September 23.

P. A. Surgeon H. W. Wickes, granted leave of absence for two days from October 28.

P. A. Surgeon M. H. Foster, granted leave of absence for fifteen days from November 3.

P. A. Surgeon J. P. Anderson, to proceed to Lexington, Va., for special temporary duty.

A. A. Surgeon J. P. Bullard, granted leave of absence for four days from October 29.

A. A. Surgeon B. W. Goldsborough, Department letter granting him leave of absence for three weeks from Sept 22, 1903, amended to read thirteen days.

A. A. Surgeon J. M. Jackson, Jr., Department letter granting him leave of absence for thirty days from Oct 5, 1903, amended so as to read thirty days from October 26.

A. A. Surgeon N. V. Safford, granted leave of absence for three days from Oct 23, 1903 under paragraph 191 of the Regulations.

A. A. Surgeon F. M. Clarke, granted leave of absence for twenty days from November 8.

A. A. Surgeon D. M. Tchemendia, granted leave of absence, on account of sickness for thirty days from October 5.

A. A. Surgeon J. W. Tappan, granted leave of absence for seven days from Nov. 2, 1903 under paragraph 191 of the Regulations.

Pharmacist John Achenbach, granted leave of absence for six days from Oct 26, 1903, under paragraph 210 of the Regulations.

BOARDS CONVENED

Board convened at Baltimore Nov 2, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. B. Carter, chairman; Asst Surgeon M. W. Glover, recorder.

Board convened at Washington, D. C., Oct 29, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Asst. Surgeon J. W. J. Pettus, chairman; Asst-Surgeon A. J. . . .

Board convened at Philadelphia or the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Asst Surgeon W. A. Korn, chairman, Asst Surgeon C. W. Willie, recorder.

PROMOTION.

Asst Surgeon J. C. Hobdy commissioned (recess) as passed assistant surgeon in the Public Health and Marine Hospital Service, to rank as such from Aug 13, 1903.

APPOINTMENT.

W. J. S. Stewart, appointed acting assistant surgeon for duty at Rio de Janeiro, Brazil.

CASUALTIES

Asst Surgeon C. E. Decker, died Oct 21, 1903.

A. A. Surgeon C. B. Sweeting, died Oct 4, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine-Hospital Service, during the week ended Nov 6, 1903.

SMALLPOX—UNITED STATES

Alabama Mobile Oct 25 31, 7 cases.

California San Francisco Oct 19 25, 2 cases.

Colorado Denver, Sept 27 Oct 17, 14 cases.

Illinois Belleville, Oct 25 31, 7 cases, Chicago, Oct 25 31, 1 case.

Indiana Evansville, Oct 18 24, 1 case, imported.

Louisiana New Orleans Oct 27 31, 1 case.

Maryland Cumberland Oct 13 1, 1 case.

Massachusetts Boston Oct 25 31, 1 case.

New Hampshire Manchester, Oct 25 31, 7 cases.

New York New York City Oct 25 31, 1 case.

Ohio Cincinnati, Oct 24 30, 4 cases, Cleveland, Oct 25 31, 2 cases.

Pennsylvania Erie, Oct 25 31, 1 case, Johnstown, Oct 25 31, 6 cases, 2 deaths Philadelphia, Oct 25 31, 13 cases, 8 deaths, Pittsburg, Oct 18 31, 96 cases, 12 deaths, 1 case imported.

SMALLPOX—FOREIGN

Argentina Buenos Ayres Aug 1 31, 12 deaths.

Belgium Antwerp Oct 4 10, 2 cases.

Brazil Rio de Janeiro Sept 28 Oct 11 117 cases, 64 deaths.

Colombia Barranquilla Oct 5 18, 3 deaths.

France Paris, Oct 12 17, 1 case, 1 death, Rouen, Sept. 1 30, 5 cases.

Great Britain Birmingham, Oct 11 17, 1 case, Glasgow, Oct 17 23, 1 death Liverpool, Oct 11 17, 4 cases London Oct 11 17, 11 cases, Manchester, Oct 11 17, 5 cases, Newcastle on Tyne, Oct 11 17, 6 cases.

Greece Athens Oct 4 10, 1 case.

Guala Demoraia Aug 29 Sept 26 326 cases, 1 death.

India Bombay Sept 30 Oct 6 2 deaths.

Hawaiian Islands Honolulu Sept 1 30, 3 cases, 2 deaths.

Japan Yokohama, Jan 1 Sept 10, 2 cases.

Malta Oct 13 19, 1 case.

Mexico City of Mexico Oct 12 18, 2 cases, 2 deaths.

Russia Moscow, Oct 4 10, 4 cases, St. Petersburg, Oct 4 10, 19 cases, Warsaw Sept 20 26, 3 deaths.

Spain Barcelona, Oct 11 17, 5 deaths.

Turkey Smyrna Oct 5 11, 59 deaths.

Uruguay Montevideo, June 5 Sept 3, 10 cases.

YELLOW FEVER—UNITED STATES

Texas Connel Nov 3 1 case, Laredo Oct 28 Nov 4, 81 cases, 20 deaths; Wlvera Oct 30 1 case, San Antonio Oct 27-Nov 2, 4 cases, 3 deaths, Devitt County, to Nov 4, 5 cases, 1 death.

YELLOW FEVER—FOREIGN

Brazil Rio de Janeiro Sept 28-Oct 11, 4 cases, 3 deaths.

Costa Rica Limon, Oct 22, 1 case.

Mexico. Tampico, Oct. 11-24, 4 deaths; Vera Cruz, Oct. 19-24, 41 cases, 12 deaths.

Jamaica: Port Royal, Oct. 11-17, 4 cases.

CHOLERA—FOREIGN.

India: Madras, Sept. 19-Oct. 2, 4 deaths.

Japan: Kobe, Sept. 27-Oct. 3, 2 cases, 1 death; Nagasaki, Oct. 26, present.

Turkey: Arghani-Manden, Oct. 6, 2 cases; Gerger, Oct. 6, 4 cases; Syria, Sept. 28-Oct. 5, 743 cases, 635 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Sept. 28-Oct. 11, 80 cases, 31 deaths.

Egypt: Alexandria, Oct. 3-10, 7 cases, 2 deaths.

India: Bombay, Sept. 30-Oct. 6, 76 deaths.

Japan: Yokohama, Sept. 13-26, 2 cases, 2 deaths.

Mauritius: Sept. 18-Oct. 1, 104 cases, 76 deaths.

South Africa: East London, Sept. 6-19, 1 case, 1 death; Port Elizabeth, Sept. 6-19, 1 case.

Turkey: Syria, Damascus, Oct. 19, present; Hama, Oct. 19, present; Hama, Oct. 19, present; Tripoli, Oct. 19, present.

Medical Organization.

California.

KERN COUNTY MEDICAL ASSOCIATION.—At the meeting held in Bakersfield, October 19, the society adopted the standard constitution and by-laws, and elected Dr. Clarence W. Kellogg, Kern, president; Dr. J. L. Carson, Bakersfield, vice-president, and Dr. William S. Fowler, Bakersfield, secretary.

SONOMA COUNTY MEDICAL SOCIETY.—The physicians of the county met at Santa Rosa, October 21, to consider the organization of a county society. Drs. Andrew W. Morton, Curtis G. Kenyon and Philip M. Jones, San Francisco, trustees of the Medical Society of the State of California, were present. Dr. Elizabeth M. Yates, Santa Rosa, was made temporary chairman, and Dr. Melville M. Shearer, Santa Rosa, temporary secretary. The standard constitution and by-laws was read, discussed and adopted, and permanent organization effected by the election of the following officers: Dr. Melville M. Shearer, president; Dr. James W. Jesse, vice-president; Dr. George W. Mallory, secretary, and Dr. Anabel McG. Stuart, treasurer, all of Santa Rosa.

Florida.

BREVARD COUNTY MEDICAL SOCIETY.—This society has been organized at Titusville with the following officers: Dr. Benjamin R. Wilson, Titusville, president; Dr. George W. Holmes, Sharpes, vice-president; Dr. William L. Hughlett, Cocoa, secretary and treasurer, and Drs. Leon A. Peek, Melbourne, Clyde P. Platts, Fort Pierce, and Edward E. Rollins, Titusville, censors.

Illinois.

CLARK COUNTY MEDICAL SOCIETY.—At the second quarterly meeting held in Marshall, October 8, a new constitution and by-laws was read and adopted.

LOGAN COUNTY MEDICAL SOCIETY.—This society met at Lincoln, October 29, adopted the standard constitution and by-laws and elected the following officers: Dr. James L. Lowrie, Lincoln, president; Drs. Louis F. Curtis, Elkhart, and Maskell Lee, Atlanta, vice-presidents; Dr. Harry S. Oyler, Lincoln, secretary, and Dr. William H. Kirby, Chestnut, treasurer.

Indiana.

GRANT COUNTY MEDICAL SOCIETY.—At the meeting held in Marion, October 27, the society adopted the standard constitution and by-laws. The increase in membership has been marked, especially among the younger physicians in the county.

Iowa.

GRUNDY COUNTY MEDICAL SOCIETY.—At its meeting held in Grundy Center, October 27, the society reorganized and adopted a new constitution and by-laws.

MUSCATINE COUNTY MEDICAL SOCIETY.—The full quota of officers of this society, whose reorganization was noticed in THE JOURNAL of October 24, is as follows: President, Dr. Henry M. Dean, Muscatine; vice-president, Dr. Calvin W. Smith, Muscatine; secretary-treasurer, Dr. Thomas F. Beveridge, Muscatine, and censors, Drs. George O. Morgridge, Muscatine, Alexander R. Leith, Wilton, and Channing B. Kimball, West Liberty. The next meeting will be held jointly with the Southeastern Iowa District Medical Association, at Muscatine, November 19.

Louisiana.

VERMILION PARISH MEDICAL SOCIETY.—The physicians of the parish met in Abbeville, October 17, and organized a society on the standard plan with 10 members, and the following officers:

Dr. Milton R. Cushman, Abbeville, president; Dr. Joseph T. Abshire, Leroy, vice-president; Dr. Clarence J. Edwards, Abbeville, secretary, and Dr. H. B. White, Gueydan, treasurer.

ST. TAMMANY PARISH MEDICAL SOCIETY.—Physicians of the parish met in Covington, October 20, and organized a society on the standard plan, with the following officers: Dr. Ruffin B. Paine, Mandeville, president; Dr. James F. Pigott, Covington, vice-president, and Dr. H. D. Bulloch, Covington, secretary and treasurer. The society started with a charter membership of 11.

ST. JAMES PARISH MEDICAL SOCIETY.—Dr. Andrew G. Friedrichs, New Orleans, counselor for the Second District, and Dr. Louis G. Le Beuf, New Orleans, met with the physicians of the parish at Convent, October 31, and aided in the organization of this society, which has an initial membership of 12. The following officers were elected: Dr. Pierre C. Tireuit, Oubre, president, and Dr. J. F. Buquoi, secretary.

TERREBONNE PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at Houma, October 23, and participated in the organization of a parish society with an initial charter membership of 10. The following officers were elected: Dr. Robert E. McBride, Houma, president; Dr. Adolphe Delcourt, Houma, vice-president; Dr. Adolphe Delcourt, Jr., Houma, secretary, and Dr. Adolphe Tireuit, Little Caillou, treasurer.

IBERIA PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at New Iberia, October 27, and helped them to organize a medical society with the following officers: President, Dr. George J. Sabathier, New Iberia; vice-president, Dr. George P. Minvielle, Jeanerette; secretary and treasurer, Dr. J. Wofford Saunders, New Iberia, and committee on scientific work, Drs. J. Wofford Saunders, New Iberia, Phares A. Bogkin, Jeanerette, and George P. Minvielle, Jeanerette.

Minnesota.

MILLE LACS, ISANTI AND KANABEC COUNTY MEDICAL SOCIETY.—This society has been organized at Princeton with the following officers: President, Dr. Henry C. Cooney, Princeton; vice-president, Dr. Henry P. Bacon, Milaca; secretary, Dr. Theo. L. F. Armitage, Princeton; treasurer, Dr. G. Ross Caley, Princeton, and censors, Drs. Jacob F. Whiting, Spencer Brook, Robert B. Hixson, Cambridge, and George W. Nichols, Milaca.

Missouri.

MORGAN COUNTY MEDICAL SOCIETY.—This society, auxiliary to the Medical Association of the State of Missouri, was organized at Versailles, October 29, with the following officers: Dr. Joel D. Hubbard, president; Dr. John T. Beale, secretary, and Dr. Robert Q. Kelly, delegate to the state association, all of Versailles.

North Carolina.

SCOTLAND COUNTY MEDICAL SOCIETY.—Dr. Jacob F. Highsmith, Fayetteville, counselor for the Fifth District, met with the physicians of the county at Laurinburg, October 19, and organized a county society with the following officers: President, Dr. Daniel M. Prince, Laurinburg; vice-president, Dr. William T. Pate, Gibson; secretary and treasurer, Dr. Alfred W. Hamer, Laurinburg, and censors, Drs. Peter John, Laurinburg, William G. Shaw, Fontcol, and George M. Pate, Gibson.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

(Continued from page 1158.)

Report of the Committee on Animal Diseases and Food.

DR. D. E. SALMON, Washington, D. C., chairman, presented this report, which will be published in full in THE JOURNAL. The committee concluded that it would require much work to decide with even approximate accuracy the proportion of human tuberculosis caused by animal infec-

tion; but the fact that 25 per cent. of the cases in children investigated by the German commission, and 50 per cent. of similar cases investigated by de Schweinitz showed that they were caused by animal infection was sufficient to convince the committee that measures should be taken and enforced at once to guard against infection from this source.

DISCUSSION.

DR. GEORGE M. STERNBERG called attention to the facts that pathogenic bacteria vary greatly in virulency, that attenuated varieties may be produced, motile bacilli lose their motility, etc.

DR. GARDNER T. SWARTS, Providence, R. I., mentioned the shaking of the hide of the cow as a means of transmission of tuberculosis through milk, in addition to shaking the udder during the milking process.

DR. JOHN GUTIERAS, Havana, Cuba, said the results in Cuba tended to show the transmission of tuberculosis through milk was not as frequent as was generally supposed. No milk was used in Cuba that was not boiled, and yet he believed infantile tuberculosis was as frequent in Cuba as elsewhere.

DR. J. M. LINDSAY, Havana, Cuba, did not believe consumption, strictly speaking, was a contagious, infectious or hereditary disease. He said it was a product of wrong living. This wrong living might be from taking milk from tuberculous cows, or from living in a tuberculous house.

DR. D. E. SALMON, Washington, D. C., said that while Cuba sterilized its milk more than America did, yet it might also be the case that if Cuba did not sterilize its milk it would have more tuberculosis than it did at present.

Report of the Committee on the Causes and Prevention of Infant Mortality.

DR. HENRY MITCHELL, Asbury Park, N. J., chairman, in this report, said that among the most promising measures for a further reduction of infant mortality, the committee directed attention to the following: 1. To secure a more general adoption of cleanly methods of the collection, cooling and handling of cow's milk. It was not enough to destroy bacteria which had been permitted to gain entrance into the milk, or while pathogenic bacteria might be rendered innocuous, the toxins already formed were not affected by high temperature, hence no manipulation of the milk could be safely substituted for cleanliness in its collection and distribution. 2. To abolish breeding-places for flies in dwellings and to exclude them from contact with food. 3. To encourage the erection of improved tenements in cities and to show the dwellers in crowded districts the advantage of residence in the suburbs. 4. To more effectually isolate all cases of the dangerous communicable diseases.

Preparation of Vaccine Virus.

DR. JOHN F. ANDERSON, Washington, D. C., said experimental work had shown that the germicidal action of glycerin was feeble; other substances have been tried, and of these, chloroform seemed the most valuable. By it, the extraneous bacteria are removed in from a few hours to seven days; glycerin requires four weeks for full effect. Chloroform does not harm the vaccine potency. Chloroform, being extremely volatile, could be allowed to evaporate from the vaccine under aseptic precautions after being allowed to act as long as desired. It would be especially useful in hot countries where the active agent in vaccine does not retain its potency long, or when, as in epidemics, sudden calls were made for large quantities of virus.

Report of the Committee on the Disposal of Refuse Materials.

MR. RUDOLPH HERING, New York City, read this report, pointing out that each municipality should select the most economical method in construction and maintenance, as determined by a study of its own special conditions, and by using the deductions of the large experience with such problems both in Europe and at home.

Report of the Committee on the Etiology of Yellow Fever.

DR. JOHN W. ROSS, U. S. N., Washington, D. C., read this report. Baggage and bedding were admitted to Havana freely,

and no cases were caused thereby. The conclusions previously reached were supported by experience since.

Report of the Committee on the Canteen in Armies.

DR. GEORGE M. KOBER, chairman, Washington, D. C., read this report. Reference was made to the introduction of the canteen system, and after dwelling at great length on the increase of drunkenness, the increase of trials by summary or other courts for drunkenness and for offenses caused by drunkenness, increase of desertions, increase in absence without leave, effects of the abolition of the sale of beer at the posts on the morality and discipline of the command, the committee presented the following recommendations:

THE RARE NECESSITY FOR ALCOHOL.

1. Your committee is aware of the fact that beverages containing alcohol are an accessory food of value only when it becomes necessary to increase temporarily the elasticity of mind and body and a desire and capacity for work, and that the subsequent depressing effects and the baneful influence of its misuse requires great care in its employment, especially when rest, proper food and some of the alkaloidal beverages, like coffee, tea, cocoa, and stimulants, like meat broths and soup, may accomplish the same purpose, and their sale as a substitute should be encouraged.

CHOOSE THE LESSER EVIL.

2. In spite of the fact that beer drinking, viewed in the abstract, is unproductive of good, your committee believes that its sale in canteens, under rational and comprehensive regulations, rather than its total prohibition, will subserve the best interest of scientific temperance, because so long as human nature is weak and the masses are not properly educated, the substitution of a lesser evil under military control appears not only justifiable but will in the future, as it has in the past, prevent excesses which are fatal to the soldier, soul and body. At present every effort toward total abstinence at military posts merely opposes theory to facts and sentiment to statistics, and compels recourse to saloons of the lowest character, whose proprietors care nothing for the efficiency of the army or the ruin of a good soldier.

A SOCIAL CLUB—NOT A SALOON.

3. Every precaution should be observed to conduct post exchanges and the sale of light wine and beer along the lines recommended by Munson in his "Theory and Practice of Military Hygiene," pp. 820-822, and your committee begs to emphasize the fact that the bar features should be entirely abolished and that the exchange should, in fact, be a soldiers' club, with ample facilities for reading rooms, legitimate amusements and athletic sports, where the soldier as a self-respecting individual may satisfy in an orderly manner his craving for diversion from the routine duties of a military life, without undue prominence of the refreshment feature.

SUBSTITUTES FOR ALCOHOLICS.

4. The sale of soft drinks, warm lunches, coffee, tea, cocoa, bouillon and soups should be encouraged as substitutes for alcoholic beverages, and medicinal and line officers should be directed to educate, by precept and example, the rank and file of the army; that, for persons in health, alcohol in any form presents no advantages not found in other foodstuffs or stimulants and which are, moreover, free from the dangers attending its use. In this connection it should be remembered that good food, well prepared and properly cooked and served, is one of the most effective prophylactic measures against the "drink habit" in civil as well as military life, and no effort should be spared to bring the culinary department in the army to the highest state of perfection.

VENEREAL PROPHYLAXIS.

5. Medical officers should point out the grave and far-reaching consequences of the effect of venereal diseases, so intimately connected with the drink habit, and make a strong plea in favor of continence. This may be done by letting these young men know that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. The soldier can be assured that by the cultivation of pure thoughts, removal of temptation, normal mental and, especially, by vigorous physical exercise, continence is not only possible but easy.

OFFICERS SHOULD TAKE A PERSONAL INTEREST IN THEIR MEN.

6. Strong effort should be made to improve the social conditions of the soldiers. There are times and occasions when the friendly advice of a company commander or attending surgeon, showing a personal interest in the physical and moral welfare of the young soldier, will prove a greater benefit than the cold verdict of a summary court martial. Such personal efforts on the part of the officers, dictated by the spirit of a universal brotherhood of man, appears to us perfectly compatible with proper military discipline. It is also believed that the habit of making savings deposits with the army paymasters may be greatly stimulated by personal efforts.

RESOLUTIONS ADOPTED.

The committee recommended the presentation to the Senate and House of Representatives in Congress the following resolutions, which were adopted by the association:

Resolved, That this body deplores the action of Congress in curtailing the authorization of the army canteen or post exchange and, in the interests of general and military sanitation, recommends its establishment on its former basis at the earliest possible date.

Resolved, That this body, in the interest of temperance and humanity, cordially invites the intelligent co-operation of a very large element of good citizens, who have been active in securing legislation against the sales in the military service of alcoholics of any character. In taking successive steps toward the betterment of existing conditions, and thus assist in controlling and largely curtailing an evil which it is powerless at present to prevent.

Human and Bovine Tuberculosis.

DR. M. P. RAVENEL, Philadelphia, discussed the researches made on this subject. He felt that the genetic unity of the human and bovine races of tubercle bacilli, as well as their *intertransmissibility*, had been definitely demonstrated. It had also been proven that a certain proportion of persons, chiefly young children, met their death through infection with the bovine tubercle bacillus, but the knowledge at hand did not enable him at present to define the extent of this danger.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City, Oct. 19-22, 1903.

(Concluded from page 1159.)

Properties of the Blood Serum as Illuminated by Ehrlich's Researches.

DR. RICHARD C. CABOT, Boston, gave a most interesting talk on this subject, with the object of popularizing it among physicians. He characterized it as the most important single medical discovery that had been made since the publication of Virchow's cellular doctrine. After explaining, in a most delightful manner Ehrlich's side-chain theory, he went into the subject of hemolysis, with its medical and medicolegal aspects.

Diphtheria in the Country; Its Diagnosis and Management.

DR. J. R. STURTEVANT, Theresa, described cases from which he reasoned that the admission of chickens to the dwelling house and the open cesspool near the door were not uncommon sources of diphtheria. He believed it was the duty of every country practitioner to always keep diphtheria antitoxin at hand, and, according to his own experience, doses of 1,500 units were ordinarily sufficient.

DISCUSSION.

DR. J. ORLEY STRANAHAN, Rome, said that he had found it necessary and desirable to use large doses; in one case he had given 3,000 units every six hours for five doses before there was any improvement.

DR. DELANCEY ROCHESTER, Buffalo, said that an extensive hospital experience with diphtheria had taught him to use antitoxin freely. His initial dose was 4,000 units at least, and he had given during the first year of life as high as 5,000 units, sometimes repeating this dose in three hours.

Some Features of the Epileptic Attack.

DR. B. ONUF, Sonyea, called attention to the fact that the epileptic cry was not shrill, but was a low tremulous moan. The positions of the limbs varied in different attacks or even in the same attack, but the point to be noted was the asymmetry of these postures. It was not always easy to determine whether or not any consciousness remained, but there might be some recollection of the attack, or if pricked with a pin during the seizure, the way in which the limb was placed out of the way of the irritation might show some cerebral activity to be present.

Prostatectomy.

DR. PARKER SYMS, New York, reported 25 cases and showed the specimens. There was one death, which occurred after 23 operations had been done. There were practically 20 cures. The principal danger was from the anesthetic.

DISCUSSION.

DR. GOODFELLOW, San Francisco, said that he had done about 90 prostatectomies. He makes use of the old median lithotomy operation, and, in the past two years, in order to avoid the dangers of ordinary general anesthesia, he has employed spinal cocaine. He rarely had much hemorrhage with these perineal operations, and since he had, as far as possible, avoided instrumentation, both before and after operation, epididymitis had been a very rare complication.

DR. HENRY ROTH, New York, said that he had seen most of Dr. Syms' cases, and had been impressed with the fact that the mortality was only 4 per cent., whereas the earlier prostatectomies of a few years ago had a mortality of 30 or 40 per cent. The general condition rather than the patient's age should be considered when deciding on operation.

Knowledge of the Eye That is of Use to the General Practitioner.

DR. S. BUSBY ALLEN, New York, read this paper. He said that every practitioner should be on the alert for acute glaucoma because he could easily detect it by merely noting the tension of the eye, and because a failure to recognize the true condition at once led to such serious consequences. In about 30 per cent. of cases of tabes progressive loss of vision, diplopia and possibly ptosis precede the other symptoms. The onset and steady increase of presbyopia at an unusually early age should suggest diabetes. Cataract is also not uncommon in diabetes. Inequality of the pupils should always lead to a searching examination.

The Early Diagnosis of Tuberculosis.

DR. JAMES J. WALSH, New York, was the author of this paper. He pointed out that a rapid pulse was often persistently present for a considerable time before the toxin of tuberculosis exerted any perceptible influence on the body temperature. And yet slight temperature variations were among the early signs. The temperature should be taken at 8 a. m., 12 m. and 6 p. m., and if there is a daily variation of a degree and a half it is probable that some infection is present. In some healthy individuals a morning temperature of 98.5 F. would point to a slight elevation of the temperature. There was often extensive consolidation of the lungs, and sometimes even secondary infection before tubercle bacilli appeared in the sputum. The posterior portion of the apex was the first part usually affected.

DISCUSSION.

DR. DELANCEY ROCHESTER mentioned a case in which there was not as much as one degree of daily variation in temperature, so far as could be learned from taking the temperature three times a day, but when he had it taken every two hours from 6 a. m. to 10 p. m. it was discovered that the highest temperature was between 8 and 10 p. m., instead of between 2 and 6 p. m., and that the total daily variation was 2.5 F. He had found a change in the pitch on percussion to be of value at a time when the other physical signs were negative. The physical signs of incipient tuberculosis were often obtained at the clavicle, above the scapula and in the upper part of the scapular region. The tuberculin test is an important confirmatory test.

DR. S. A. KNOPE, New York, said that early pulmonary consolidation could often be detected best by placing the hand over the lung and telling the patient to take a deep breath and then make a humming sound. This would produce a perceptible fremitus. He had known reaction to the tuberculin test in chlorotic girls, as well as in actinomycosis and syphilis; moreover, it sometimes causes a generalization of the disease; hence it is both unreliable and dangerous.

Treatment of Septic Affections by the Intravenous Injections of Collargol.

DR. GEORGE TUCKER HARRISON, New York, recommended injection of a 5 per cent. solution into the vein under aseptic precautions; he had never found it necessary to use more than 7 injections in any one case. He felt that this treatment was a therapeutic resource of the highest order.

Acute Cholecystitis.

DR. J. H. MUSSER, Philadelphia, believed cholecystitis to be a very common disease and one bearing some resemblance to appendicitis. Pain in the epigastrium, or radiating to the right shoulder, was present in 95 per cent. of the cases. Forty per cent. of all types of cholecystitis die if not operated on, whereas only 5 per cent. die if subjected to operation during the course of the disease.

DISCUSSION.

DR. ROBERT T. MORRIS, New York, mentioned a case in which, although there had been no prodromal symptoms immediately following an operation for acute empyema of the gall bladder, the patient passed through a typical typhoid. He believed acute pancreatitis to be a most dangerous complication, this alone affording an excellent reason for operating.

DR. ALEXANDER LAMBERT said he had found it at times well-nigh impossible to differentiate between appendicitis and chole-

cystitis. Some assistance was derived from noting the effect of pressing over the appendix and over the gall bladder.

The Surgical Treatment of Salpingitis.

DR. HENRY C. COE, New York, said that the propriety of the operation of vaginal incision and drainage in pyosalpinx is now generally recognized. Even the simplest cases of pelvic abscess should be prepared for an abdominal section before any attempt is made to evacuate them. The practical difficulty in all conservative operations on the tubes was to distinguish between healthy and diseased tissues. When doing the radical operation, it was better to excise the tube and suture the uterine cornu than to leave a stump of tube.

The Non-Operative Treatment of Salpingitis.

DR. W. TRAVIS GIBB, New York, said that in acute catarrhal salpingitis the treatment should be largely expectant, and the use of antipyretics should be avoided, because pain and fever were depended on by the physician to show him the course of the disease. Curettage and intra-uterine applications should be avoided during the acute stage. As a symptomatic cure can be effected in many cases of chronic salpingitis by non-operative treatment, this method should be given a fair trial. Opiates and stimulants should be avoided and everything done to improve the general health. In addition large hot saline douches should be taken, and the vagina should be tamponed with cylinders of lamb's wool moistened with ichthyol.

DISCUSSION.

DR. W. M. POLK spoke in favor of incision through the posterior cul-de-sac in cases of severe pelvic inflammation.

DR. C. BOXFIELD, Cincinnati, said that he had found veratrum viride, given usually in doses of 8 to 15 minims every eight to twelve hours, a most useful means of limiting pelvic inflammation, and at the same time favoring elimination of septic matter by stimulating the skin, kidneys and liver.

Clinical Aspects of Ileocolitis in Children.

DR. THOMAS M. ROTCH, Boston, said that ileocolitis was usually secondary to fermental diarrhea or to the acute infectious diseases, especially measles. The characteristic symptoms were persistent fever, frequent, small stools containing blood, mucus, pus and shreds of membrane, tenesmus and more or less abdominal tenderness. Of 61 cases of diarrhea in which bacteriologic examinations were made last summer, the *Bacillus pyocyaneus* was present as the apparent cause in 2, the *Streptococcus pyogenes* in 1, and the *Shiga bacillus* in 10 cases. In the remaining 48 the sugar-fermenting organisms were found. The *Shiga bacillus* was not always the cause in cases having slightly bloody stools.

DR. ALBERT H. ELY, Southampton, reported several cases of colon bacillus infection of the female genito-urinary tract.

DISCUSSION.

DR. WILLIAM H. PARK said that the more ileocolitis resembled severe dysentery, the greater the probability of finding the dysentery bacillus in the stools.

DR. L. EMMETT HOLT, New York, said that all kinds of lesion had been found associated with the *Shiga* infection. Such infection was commonly denoted by sudden onset, high temperature and stools of blood and mucus. In these cases it seemed probable that the serum treatment would prove of service.

DR. R. G. FREEMAN, New York, said that in most of the 44 cases in which he had found the *Shiga bacillus* there were stools of blood and mucus. The stools and the persistence of the disease were the most characteristic features. The mortality was a trifle higher in the cases that did not receive the serum treatment, but the difference was slight. It was probable that the dosage had been inadequate.

Other papers were read as follows:

"Arteriosclerosis and Its Bearing on Certain Lesions of the Retina and Optic Nerves," by Dr. Charles Stedman Bull, New York. "The Influence of Oxygen Taken by Full Normal Respiration, When Chemically Pure, as a Means of Sustaining and Increasing Mental, Nervous and Physical Energy," by Dr. Cordelia A. Greene, Castile. "Peculiar Symptoms Following a Radical Operation on the Ear," by Dr. George F. Cott, Buffalo. "Radium in Medicine," by Dr. Samuel G. Tracy, New York. "The Etiology and Pathology of Salpingitis," by Dr. Edward J. Ill, Newark, N. J. "Removal of Superior Maxilla for Phosphorus Necrosis," by Dr. David P. Austin, New York. "The Typhoid Epidemic in Ithaca, with Special Refer-

ence to Causation, Prevention and Treatment," by Dr. Chauncey P. Biggs, Ithaca. "Treatment of Compound Fractures," by Dr. V. D. Bozovsky, Dunkirk. "Minus Cylinders; Those Who Prescribe Them and Those Who Wear Them," by Dr. Frank W. Higgins, Cortland.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Zinc Sulphocarbolate in Cholera Infantum.

DR. W. F. WAUGH, in an abstract in *Med. Rev. of Reviews*, lauds the use of zinc sulphocarbolate in the treatment of summer complaint, enterocolitis and cholera infantum. The bowels should be thoroughly cleared out with castor oil, calomel, mercury and chalk, aromatic rhubarb, lavage or colonic flushing as seems best in the individual case.

For lavage he recommends a solution containing one grain of zinc sulphocarbolate to the ounce. The same solution may be used for colonic flushing.

When the type is dysenteric, silver nitrate, grains 2 (.12) to the pint (480.) of water should be used for rectal flushing and should be given as hot as can be borne. This should be followed with the zinc salt internally, grains $\frac{1}{2}$ (.03) to two (.12) every hour to children in the second summer. It should be given in powder form combined with bismuth and pepsin. Where there is extreme acidity of the stools marked by ex-cori-ation of the rectal mucosa, sodium sulphocarbolate is preferable or the triple salts zinc, sodium and calcium.

Atropin may be of service in relieving the gastric irritability. The best diet, according to the author, is the raw white of egg in ice water, coffee, rice-water, barley water, toast water, followed by meat soups and fruit juices. The fresh juice of lean beef can be given in five (.30) to ten (.65) drop doses every hour, and in extremely debilitated individuals it should be dropped on the tongue and allowed to trickle down the esophagus.

Hot, cold or salt baths are always indicated.

Chronic Otorrhea.

The following combination is recommended by *Merck's Archives* in the treatment of chronic otorrhea:

R. Ichthyol
Glycerini
Aq. destil., aa.....3ii 8j

M. Sig.: After thoroughly syringing out the ear with warm chamomile tea, allow four to eight drops to run into the ear and repeat this treatment once a day.

The treatment of chronic nicotineism involves hygienic and medicinal measures, according to J. V. Shoemaker, in *Med. Standard*. The victim should abandon the use of tobacco. If he can not do this, he should at least diminish his smoking or chewing. His food should be plain, well prepared, nutritious and digestible. Tonics and digestants are usually required. The following combination is of service:

R. Zinci valerianatis gr. ii 12
Zinci phosphidi gr. $\frac{1}{8}$ 008
Pulv. cannabis ind. gr. $\frac{1}{4}$ 015

M. Ft. capsula No. i. Sig.: One such every four hours.

The salts of zinc counteract the nervous prostration and the cannabis indica allays the morbid imagination, which sometimes continues for a considerable length of time after the use of tobacco has been stopped.

Erysipelas.

The constitutional treatment of erysipelas, according to Hyde, should be directed to lowering the temperature, to obtaining the proper functional activity of all the organs of the body and to sustaining the strength of the patient. The purpose of local treatment is to limit the extension of the disease. Collodion, iodine, carbolic acid, alcohol, solutions of tannin and nitrate of silver are among the various remedies

recommended as local treatment for this infection. The following combinations have been employed with success:

R. Sodii hyposulphitis	3iii	12
Aque	3iii	90
M. Sig.: Apply locally on gauze; or:		
R. Acidi carbol.	3ii	8
Alcoholis	3iss	45
M. Sig.: Apply locally.		

The following combinations are remedies which have been used successfully by experienced physicians, as noted by Cheron in a former issue of *Theor. Gaz.*:

R. Creolin	3i	4
Iodoformi	3iv	15
Lanolini	3x	40
M. Sig.: Thoroughly spread over the affected area and cover with gutta percha; or:		
R. Creolin	3i	4
Cretæ prep.		
Adipis, aa	3ss	15
Olei menth. pip.	3tt. iii	20
M. Sig.: Apply locally.		

The foregoing serves to produce a cooling effect to the inflamed parts.

Ichthyol may be used as a local antiseptic in the following combination:

R. Ichthyol		
Spts. etheris, aa	3v	20
Collodii (flexible)	3x	40
M. Sig.: Apply locally.		

Internally the administration of quinin is of value to check the progress of the disease and to reduce the temperature. Iron may be given internally in the form of the tincture in large doses frequently repeated and well diluted in water. Locally it may be applied as follows:

R. Ferri sulphatis	3i	4
Lig. petrolati	3i	30
M. Sig.: Apply locally.		

The sodium preparations, applied on compresses, may be combined as follows:

R. Sodii salicylatis	3ii	8
Sodii bicarb.	3i	4
Aq. bullientis	Oi	480
M. Sig.: Apply on compresses.		

The tincture of benzoin has frequently been used in the following combination:

R. Tinct. benzoini comp.		
Glycerini		
Collodii (flex.), aa	3ii	8

M. Sig.: To be painted over the affected area once or twice daily.

Internally the following combination containing ammonium is recommended:

R. Ammon. carb.	3ii	8
Solutionis ammon. acetatis	3iii	90
Ext. glycyrrhizæ flu.	3i	30

M. Sig.: Two teaspoonfuls every three hours in water.

Delirium Tremens.

The treatment of delirium tremens, according to J. R. Clemens, in *N. Y. and Phila. Med. Jour.*, consists in prophylaxis and the treatment of the attack. The abortive treatment should be directed toward proper elimination by the bowels, moral suasion and feedings of milk and beef juice every two hours, with some sedative such as sulphonal or paraldehyde. An attack may develop a lobar pneumonia, causing one to consider the question as to the advisability of administering alcohol in delirium tremens. Alcoholics, as a rule, do not eat a sufficient amount of nourishing food, therefore food, according to the author, is the chief indication in the treatment. And, if the patient is well along in years or the attack is severe, he recommends the administration of whisky or brandy first as a bribe to get the patient to take food, and, secondly, as a stimulant to the heart, which will also combat the insomnia which is so constant. In young subjects both narcotics

and alcoholic stimulants are contraindicated. The general treatment, as outlined by the author, is as follows:

FOOD.

Milk, raw or peptonized, every two hours, alternating with beef juice.

MEDICINAL TREATMENT.

A dose of the mild chlorid of mercury at the onset, followed by a saline. A bitter tonic containing strychnia as the chief ingredient should then be given, and if the heart sounds become weak the strychnia should be given hypodermically. In treating the stubborn insomnia, the room should be dark, cool and quiet. To promote sleep hyoscine hydrobromate in doses of gr. 1/200 (.0003) to gr. 1/100 (.0006) should be given hypodermically or it may be substituted by sulphonal or paraldehyde. He condemns the use of opium or chloral because of the condition of the heart and kidneys. The patient should be constantly observed because of the tendency to suicide. Moral suasion should be used to keep the patient in bed, and, if necessary, a draw sheet should be passed across the bed over the patient and tied to the bed railing. The treatment of the delirium should be secondary to the heart and lungs.

Dr. George S. Weever, in the same periodical, recommends the following preparations either separately or combined in the treatment of the insomnia: Ammonium bromid dram 1 (4.00); morphin sulphatis grain 1/4 (.015); chloral hydrate grains ten (.65) to grains fifteen (1.00). He prefers the ammonium preparation along with cold douches and packs to relieve the delirium. After the patient has recovered from the delirium the following combination is recommended:

R. Quin. sulph.		
Pulv. capsici, aa	gr. ii	12
Ext. nucis vom.	gr. 1/4	015

M. Ft. cap. No. i. Sig.: One every four hours.

If the stomach is irritable, as is usually the case, H. K. Glidden recommends the following:

R. Bismuthi subnit.		
Cerii oxalatis, aa	3i	4
Sodii bicarb.	gr. xxiv	165

M. Ft. chartulæ No. xii. Sig.: One powder every four hours.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Illinois—Restricts Sale and Prescribing of Cocain.—What is to be known as Section 14a of the act to regulate the practice of pharmacy in Illinois is added by an act in the laws of 1903. It provides that it shall not be lawful for any druggist or other person to retail or sell or give away any cocain hydrochlorate, or any salts of or any compound of cocain, or any preparation containing cocain, or any salts of or any compound thereof, except on the written prescription of a licensed physician or dentist, which prescription shall only be filled once, and must have written plainly on it the name and address of the patient. This section shall not apply to sales at wholesale by any manufacturer or wholesale dealer, who shall sell original packages only. Each container must be labeled with a label specifically setting forth the proportion of cocain contained therein. What is to be known as Section 14b, provides that any druggist or other person who shall retail or sell any cocain, etc., in violation of this act, and any druggist or other person who shall prescribe any cocain, etc., to any person addicted to the habitual use of cocain, etc., in any form, shall, for the first offense, be fined from \$50 to \$200, and for each subsequent offense from \$200 to \$1,000, and if the person so offending shall have a license as a physician, dentist or pharmacist, such license shall be revoked. (The words "knowingly prescribes" do not appear. The physician apparently has no escape in case he fails to recognize a patient as a cocain user.)

Illinois—Must Report Deaths as Well as Births—Fees.—The Illinois act of 1903, referred to on page 971 of *THE JOURNAL*, Oct. 17, 1903, as requiring reports of births, also provides that it shall be the duty of every physician and midwife practicing in the state to report in writing, to the State Board of

Health at Springfield, the death of any of his or her patients within thirty days after said death: Provided, That in the case of deaths which occur within the corporate jurisdiction of cities, the ordinance of which requires that the burial or removal permit shall be issued before the burial or removal of the body, and that before such permit shall be issued a report or certificate of death shall be presented to the official by whom the permit shall be issued, no report need be made to the State Board of Health by the physician or midwife. All reports of deaths shall be made in the manner directed by the State Board of Health on its blank forms. Every physician, midwife or coroner who shall make a report of death to the State Board of Health in the manner provided for shall be paid for each report the sum of 25 cents. The fees for reporting births or deaths are made a charge on the county in which they accrue, and the county clerk of the respective counties shall, on the request of any person entitled to said fees in his county, issue to such person his warrant on the county treasurer of said county for the amount of fees due such person under this act, and the county treasurer of said county shall pay the same on presentation out of any money belonging to the county not otherwise appropriated: Provided, That no payment shall be made under the sections providing for payment for reporting births and deaths where the period of gestation is less than seven months.

Maine—Prohibits Spitting on Floors of Street Cars.—Chapter 130 of the Public Laws of Maine of 1903 provides that whoever spits on the floor of any street car shall be fined not less than \$2 nor more than \$10.

Maine—Provides for State Laboratory of Hygiene.—Chapter 223 of the Public Laws of Maine of 1903 confers on the State Board of Health authority to establish and equip with proper and necessary apparatus, instruments and supplies a state laboratory of hygiene for the chemical and bacteriologic examination of water supplies, milk and food products, and the examination of cases and suspected cases of diphtheria, typhoid fever, tuberculosis, glanders and other infectious and contagious diseases. The State Board of Health shall appoint a director of such laboratory, who shall hold that position at the pleasure of the board. He shall keep a record of all specimens sent to him for examination, and examine these specimens without unnecessary delay, and do such other work and make such other investigations relating to the public health as the board may from time to time instruct him to do. The services of the laboratory and all investigations therein made shall be free to the people of the state.

Massachusetts—Practice of Dentistry by Physician.—Chapter 219 of the Acts of Massachusetts of 1903, entitled "An act relative to the practice of dentistry," amends Section 29 of Chapter 76 of the revised laws so that it reads: The provisions of Sections 24 to 28, inclusive, shall not apply to a physician registered under the provisions of this chapter "and in actual practice as a physician, in cases where he deems immediate treatment necessary for the relief of his patients," etc., the amendment consisting of the insertion of the words inclosed in quotation marks.

Massachusetts—Forbids Furnishing Liquor at Hospitals.—Chapter 410 of the Acts of Massachusetts of 1903 provides that whoever gives, sells or delivers spirituous or intoxicating liquor to a patient of the Massachusetts Hospital for dipso-manias and inebriates, or of any of the state hospitals for the insane, or to a patient under the control of any of said hospitals, except under the direction of a physician of the hospital, and whoever has in his possession within the precincts of any of said hospitals, any such liquor, with intent to convey or deliver it to any patient thereof, except under direction as aforesaid, shall be punished by a fine of not more than \$50 or by imprisonment for not more than two months.

Michigan—Prohibits Exhibitions of the Deformed, Etc.—No. 103 of the Public Acts of Michigan of 1903 provides, under penalty, that it shall be unlawful for any physician or other person to expose or keep on exhibition any human monstrosity, or any diseased or deformed human bodies, or parts or representation thereof, which would be indecent in the case

of a living person, except as used for scientific purposes before members of the medical profession or medical classes.

Michigan—Provision for Prevention of Rabies.—No. 116 of the Public Acts of Michigan of 1903 provides that whenever it shall be proved to the satisfaction of the local board of health that any indigent person within its jurisdiction has been bitten by a rabid dog, or other rabid animal, or in any other manner has been infected with the virus of rabies, said board shall make the necessary arrangements and send said person to the Pasteur Institute at the University of Michigan. The necessary expenses thus incurred shall be a charge on the township, city or incorporated village in which the expense was authorized. Before their payment or allowance all bills for such expenses shall be audited by the local board of health.

Wisconsin—Maternity Home and Baby-Farm Regulations.—Chapter 161 of the Laws of Wisconsin of 1903 provides that any person or corporation who own, conduct or manage any institution for the boarding or sheltering of infant children, or any so-called maternity home or lying-in hospital or so-called "baby farm" shall, before taking any inmate, report in writing to the local board of health, health officer or health department, the name and address of such person or corporation and the exact location of the institution. The local health officer or health commissioner, or his assistants, shall, at reasonable hours, be admitted to inspect the institution. Births, including those of stillborn or prematurely born children, taking place in such maternity home shall be reported to the local board of health or health officer or department within twenty-four hours and before the child is removed from the institution. Likewise, the arrival of any child at a home for infants shall be reported, giving name, sex, age, color and from whom received. The removal of any child shall also be reported. And it shall be the duty of the local board of health, health officer or department to keep informed of the nature and reputation of every such institution in their respective jurisdiction, and to visit and inspect the same from time to time.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 31.

- 1 *The Dietetic Treatment of Chronic Nephritis. J. M. Anders.
- 2 *The Technic of McGraw's Method of Gastroenterostomy. Samuel Lloyd.
- 3 Successful Intraneural Infiltration of the Median and Ulnar Nerves During an Operation for Dupuytren's Contraction of the Fingers. W. W. Keen.
- 4 Digestion of Milk. George Richter.
- 5 *Mercury; Its Administration Hypodermically in Syphilis. William F. Bernart.
- 6 *Volvulus of the Stomach. C. D. Spivak.
- 7 *Multiple Visceral Lesion. A. L. Benedict.

1. Chronic Nephritis.—Anders considers the diet most important. He thinks clinicians tend too much to giving an insufficient amount of albuminous aliment, and finds a moderate quantity allowable and often beneficial. He is not inclined to think the red meats especially more dangerous than the white. In general he would say that whole milk diluted should make a considerable portion of the diet, while the meats should be restricted as a rule, and fruits, green vegetables and rice be given more freely. The individual meals should be small and taken at three-hour intervals. The extent to which the diet contributes to nutrition should be carefully estimated, as shown by noting the effect on the intensity of the albumin and particularly on the kidney elimination of normal metabolic products. He does not recommend chemical substances as tests for secretory function. The use of cryoscopy to determine the kidney secretion is specially mentioned. The patient should keep a careful record of the body weight at intervals and the diet be regulated accordingly. He also insists on the value of systematic blood examinations.

2. The McGraw Method of Gastro-enterostomy.—Lloyd describes the McGraw operation, using the illustrations employed

in Walker's paper in *THE JOURNAL* of January 17. He believes in a good-sized rubber ligature, and he thinks Willy Meyer's suggestion of using a 4 mm. rubber cord should be adopted. He has had 7 cases, with no deaths, operated on thus. Six were successfully carried through by the McGraw method, but in the seventh, operation was completed by suturing on account of the breaking of the rubber. He does not think, however, that the method would be applicable in entero-enterostomy necessitated by complete intestinal obstruction.

4. **Digestion of Milk.**—Richter argues for the use of preservatives in milk, claiming that an overdose of an antiseptic is not so harmful as infected milk, and that the absolute forbidding of these preservatives, formaldehyd, boric acid, etc., is illogical and detrimental to the health of the community.

5. **Mercury in Syphilis.**—Bernart holds that the hypodermic method of using mercury in syphilis will cure many cases which under other methods are known as incurable, and will place the treatment on a more scientific basis, and allow the keeping of better and more accurate records. This method is, he says, absolutely essential in syphilitic lesions of the nervous system, still amenable to specific treatment. Here will be found its greatest field. He insists on the importance of accessory treatment; thorough cleanliness of the teeth and mouth, regulation of the diet, abstinence from alcohol, the observance of strict hygienic conditions, outdoor exercise, fresh air, sunshine and baths. The method he uses is to inject in the post-trochanteric region, the dosage varying within certain recognized limits to suit the individual. The principle in the severe cases is to give the largest dose possible without producing pyalism.

6. **Volvulus of the Stomach.**—Spivak reviews and reproduces cases and discusses the mechanism. Parts of his conclusions are as follows:

Volvulus of the stomach occurs in all ages and in both sexes.

Digestive disorders may be considered as etiologic factors.

Volvulus of the stomach may be divided into (a) that due to organic changes produced by adhesions, ulcerations, tumors and contractions, and (b) that in which no visible organic changes have taken place.

The characteristic symptoms are: Sudden onset; distension, which commences in the left hypochondriac region, and which gradually increases in size; a tumor, which gives, on percussion, a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass a sound into the stomach.

When the condition is recognized, early operative interference is indicated, and recovery is almost certain.

7. **Multiple Visceral Lesion.**—This term is used by Benedict to imply disease where the heart, liver and kidneys are chronically inflamed, the degenerative lesions being more or less interdependent. He includes them in the digestive specialty on account of the importance of nutrition of these patients, and of the important diagnostic problems as regards the size of the liver, the acidity of the urine, blood and stomach contents and the fact that sometime in their course the actual treatment must be mostly directed to the digestive organs. In many instances the liver is more affected than the heart and kidneys, and the liver itself is quite directly dependent on the dyspeptic troubles. He mentions the importance of diet, regulation of the amount of water, etc., and remarks that enteroclysis, aside from its local influence in the removal of toxins, has its value as a cardiac and circulatory stimulant and is one of the best means of treating the renal element of multiple visceral lesions. Saline solution is one of the most harmless and efficient diuretics; similarly gastric lavage is valuable. He does not think that hypodermoclysis or intravenous injections are necessary in these cases unless the state of the bowel prohibits enteroclysis. The hemorrhages which may occur from varicosities due to back pressure in the portal system are remarked on, and also that the pancreas is likely to participate in the sclerotic process involving the liver. The condition of the blood and ductless glands must also not be neglected.

New York Medical Journal.

October 31.

8 Presidential Address to the Medical and Chirurgical Faculty of Maryland. Eugene F. Cordell.

9 *Conservative Gynecologic Surgery; Its Practical Results. Henry C. Coe.

10 *The Diagnosis of Head Injuries. Clinton B. Herrick.

- 11 The Treatment of Diseased Fauical Tonsils in the Adult. Eugene W. Davis.
- 12 *The Present Status of Spinal Subarachnoid Cocainization. Ernest G. Mark.
- 13 *A Consideration of the Pathology and Treatment of Cancer. Leonard Weber.

9. **Conservative Gynecologic Surgery.**—Coe notices the methods of different operators, with special reference to results. In over 5 per cent. of his conservative operations he has been obliged to perform a secondary laparotomy in order to effect a cure, and he thinks this fairly represents the experience of other surgeons. Those who have employed the vaginal route report better results, but one can not accept the sweeping statement of Joseph Price that the necessity for a second operation implies a want of skill or technic in the first. The results of conservative surgery of the adnexa have their drawbacks, and we have not yet discovered any certain methods of preventing the re-formation of adhesions or predicting what cases will give further trouble. He does not, as a rule, favor resection of the tubes. He thinks it rather an unnecessary procedure, and as regards relief of symptoms from conservative operation, the results may be disappointing. What the patient generally wants is relief from pain and she will be disappointed if this is not obtained. Disturbances of menstruation are common after partial removal of the ovaries, amenorrhea, but more often profuse menorrhagia. He has been obliged to remove the uterus at least in a dozen cases on account of hemorrhage alone. His results in cure of sterility have not been so brilliant as those reported by Dudley, since less than 3 per cent. of his patients have become pregnant after resection of the tubes and organs. While he believes in the propriety of preserving the ovaries even at the risk of a second operation, the question must suggest itself as to whether it is not better to leave a doubtful ovary alone than to tinker with it, and thus possibly invite cystic degeneration or the cirrhosis which we fear. We can not exactly define the border line between normal and pathologic, even on the operating table. Conservatism, however, has come to stay, and with more perfect technic and experience better results may be hoped for.

10. **Head Injuries.**—Herrick describes the various forms of head injuries, including contusions, scalp wounds, fractures of various types, contused brain, lacerations, hemorrhage, etc.

12. **Spinal Cocainization.**—Mark has investigated this subject, sending a circular out to the various surgeons, most extensive users of spinal cocainization, asking them concerning mortality attributed to it, the technic, and the dangers as compared with general anesthesia. He reviews the deaths reported and finds little evidence of the responsibility of the method for the result. Only one surgeon heard from has abandoned the method on account of the "difficulty of obtaining uniform sterile solutions of strength"; some preferred tropacocain to cocain. A number of cases are reported. He concludes that the method is as safe, if not safer, than general anesthesia, and that we may safely employ a dose up to .48 of a grain of cocain without fear of toxic effects, and that shock, when present, is decidedly less than that of general anesthesia. There is less danger of annoying sequelæ, but on account of the variability in the length of its analgetic action, it is contraindicated in prolonged operative procedures. Only one death has been reported in this country that could be attributed to its use, and the patient was an elderly woman, weighing 318 pounds, with a very serious heart lesion. The surgeon in this case, Dr. Morton, is still one of the most devoted adherents of the method.

13. **Cancer.**—Weber does not implicitly accept the parasitic theory of cancer. The parasite has not been demonstrated. Early excision is the method to be employed. He has given up escharotics and advises against them. The use of the x-ray should follow the operation. In many cases much can be done by diet, hydrotherapy, sunshine, tonics, etc., to increase the resistance and prevent recurrence.

Boston Medical and Surgical Journal.

October 29.

14 *The Relation of Laboratory Research to the General Practitioner of Medicine. Horace D. Arnold.

- 15 Pneumothorax Associated with Fracture of the Ribs; Report of Two Cases. Fred T. Murphy.
 16 *Some Observations on X-Ray Therapeutics in Skin Diseases. Frederick S. Burns.
 17 *Record of Parasitic Infections in the Philippines. W. J. Calvert.

14. Laboratory Research and the General Practitioner.—The importance of laboratory methods is insisted on by Arnold, who, nevertheless, points out that it is one of the faults of our medical education at the present day to produce an exaggerated view in the mind of the medical student as to the importance of this work in general practice. He says it requires some courage to say that this side of medical education is overdone in schools, but the observation of recent graduates and students has convinced him that such is the case. While the laboratory expert has a better foundation he has also laboratory astigmatism, and common sense may be lacking. He thinks the general practitioner should have certain laboratory methods at his command, counting of the blood corpuscles, estimation of hemoglobin by means of Tallquist paper, examination of the urine, sometimes of the feces, sputum, pus, vomitus, and the gastric contents. The Widal reaction is rather beyond the general practitioner at present, and the laboratory should be depended on, but the bacteriologic diagnosis of diphtheria is important. He sums up by saying that the laboratory method in clinical medicine is of acknowledged value and such measures are not employed by the general practitioner as fully as they should be. The man who has plenty of time and does not choose to equip himself is short-sighted. The man who thinks he is too busy would find a limited sacrifice of time one of the best investments he could make. The practitioner who is too busy with general practice to do such work himself should have it done, nevertheless, where necessary.

16. The X-Ray in Skin Diseases.—Burns finds the x-rays of great value, in epithelioma especially, and says they offer the best relief to a certain class of such lesions. Some cases are better treated by excision and it is a waste of time to treat very small lesions for weeks when they can be effectually destroyed in a few minutes with the curette and cautery. Epithelioma and carcinoma below the cutaneous surface, and even lesions which have become deep by infiltration from the skin, should not be treated by the x-rays with the hope of cure. All such cases in which he has tried them have been failures and without permanent benefit, but there is almost a constant temporary relief from pain and sometimes considerable improvement in the general condition. The permanency of cure of epithelioma may be questioned, though he has not yet seen any relapses in his cases. He mentions cases of lupus, scrofuloderma, folliculitis of the beard, psoriasis and eczema treated with success. His experience includes 150 cases of skin disease treated by x-ray therapy.

17. Parasitic Infections in the Philippines.—In 136 autopsies Calvert found 53 cases of parasitic infections, 29 of ascarides, 10 of ankylostoma, 13 of tricocephalus and 1 of tenia. Forty of these cases were single infections, namely 25 of ascarides, 5 of ankylostoma, 9 of tricocephalus and 1 of tenia. Five were double infections of 2 or more; one was a triple infection of all three parasites. He says, considering the customs of the natives, especially as regards their drinking water, the figures are not so high as one would at first suppose. The small number of tenia is surprising when it is considered that cysticercus exists in 4 per cent. of all the hogs killed in Manila. No cases of trichiniasis were observed. Five cases of filariasis were found all from the Island of Luzon.

Medical Record, New York. October 31.

- 18 *High-frequency Currents. Henry G. Piffard.
 19 *Two New Methods of Determining the Digestive Activity of Gastric Juice. Henry Wald Bettmann and J. Henry Schroeder.
 20 A Case of Neurofibroma of the Skin and Large Nerve Trunks in Which There Developed a Large Spindle-celled Sarcoma Beneath the Body of the Scapula. H. W. Austin.
 21 *Some Notes on a Diet of Bread and Fruit, and Its Effects on High Blood Pressure, Dropsy and Obesity. Alexander Haig.
 22 *Hallux Valgus. John G. Sheldon.

18. High Frequency Currents.—Piffard describes his methods and apparatus and their advantages. The article does not lend itself well to abstracting as regards the first point, and should be consulted for a full understanding.

19. Gastric Juice Activity.—Two new diagnostic methods are described by Bettmann and Schroeder, one based on the fact that albumin in solution will foam when shaken up, and if a digestive ferment be mixed with the foam the albumin will be digested and the foam will disappear, and with a rapidity in proportion to the amount of digestive ferment added. The results of this test agree with the law of Borissow and Schütz that the rapidity of the digestion is as the square root of the pepsin concentration. The other method is the use of the centrifuge to hasten Hammerschlag's test, instead of waiting twenty-four hours for the precipitate to form by means of sedimentation. The authors were able to get accurate results in two hours. It must be recognized that the law of Borissow and Schütz is not applicable to concentrated solutions of pepsin, but only to those of moderate strength. The steps of the process are given as follows:

The gastric juice to be tested is diluted with three times its volume of a .2 per cent. solution of HCl. This diluted juice and the standard albumin solution are placed in the incubator about fifteen minutes in order to be warmed to body temperature. In each of two test tubes are placed 10 c.c. of the standard acidified albumin solution. To one tube 5 c.c. of the diluted gastric juice is added, to the other (the control tube) 5 c.c. of a .2 per cent. solution of HCl. These tubes are then placed in the incubator at 37 to 40 C. for exactly seventy minutes. At the end of that time they are removed, and 10 c.c. are taken from each tube and placed in the centrifugal tubes graduated to .02 c.c. To each tube is added 5 c.c. of a 10 per cent. solution of trichloroacetic acid and, after inverting the tubes several times, they are placed in a high-speed centrifugal machine and centrifuged two hours. At the end of this time the tubes are removed and the volume of sediment measured. The sediment in the control tube will be an index of the original albumin strength of the standard solution. The sediment in the second tube will be less, if digestion has taken place, the difference in the two sediments representing the proportion of albumin which has been transformed into peptone.

21. A Bread and Fruit Diet.—Haig points out the advantages of a bread and fruit diet in the high-blood-pressure group of uric-acid food poisonings, which used to be considered special diseases under the names of epilepsy, neuralgia, asthma, Bright's disease, etc. The great point in the relief of these troubles is the lowering of the blood pressure which can not be brought about with a milk diet on account of the large proportion of fluid contained. By cutting down the fluid to the smallest amount compatible with comfort, and feeding on breadstuffs, dried fruit and fresh fruit, nuts, etc., a blood pressure of 150 to 160 mm. of mercury can be reduced, he says, in a week or two to one of 120, with a corresponding improvement in all the symptoms above mentioned. This diet not only reduces the blood pressure, but eliminates also the source of the uric-acid poisoning.

22. Hallux Valgus.—After noticing the various methods of operating for this condition, Sheldon gives his own as follows:

Once having removed the infected bursa, the skin incision is made according to Dawbarn, except in cases with a tender bursa. In these cases excise the bursa and as much of the overlying skin as is compatible with complete closure of the wound. The next step is to free the inner portion of the distal end of the first metatarsal with a chisel or periosteotome. The inner one-half or two-thirds of the head of the bone is then removed with bone forceps. The outer one-third or one-half of the articular surface of the metatarsal and the phalanx are not disturbed. The extensor tendons of the great toe are then divided. The fascia and ligaments are then drawn together with catgut and the skin approximated with silkworm gut. The toe is held in proper position with a plaster splint and adhesive plaster. I usually apply a constrictor before operating; but, without constriction, the hemorrhage is slight.

He has operated on 12 cases in this way with invariably perfect results in three or four weeks. It assures a movable joint, there is no great toe shortening, and the deformity is corrected. If the bone is affected the abnormal part is removed; the space resulting from removal heals by the blood-clot process and the extensor tendons are so lengthened that they do not tend to reproduce the deformity.

Medical News, New York. October 31.

- 23 *Speculative Investments for Physicians.
 24 *On the Production of Specific Cytolytic Sera for Thyroid and Parathyroid, with Observations on the Physiology and Pathology of the Parathyroid Gland. Especially in Its Relation to Exophthalmic Goiter. W. G. MacCallum.

- 25 *Skin Lesions Associated with Rapid Growth of Long Bones, Lineæ Albicantes. W. P. Northrup.
 26 *Caffein in the Treatment of Alcoholic Toxemia. Arthur J. Hall.
 27 *A Case of Chronic Lymphatic Leukemia without Enlargement of the Lymph Nodes. George Blumer and Hermon C. Gordinier.

23. Speculative Investments for Physicians.—This article was written largely at the instance of Dr. Osler, who has noticed the constant attempts that are being made by promoters to induce physicians to become interested in speculative concerns. The general tone of the article is throughout discouraging to such investments. The successful speculator is the one who loses early and stops.

24. Thyroid and Parathyroid Bodies.—MacCallum notices the claim of Gontscharukow that he has produced a serum the use of which indicated the influence of specific antithyroid toxins and gives in detail his own experiments bearing on this point. He inoculated geese with thyroid extract and used their serum on dogs. On the whole his experiments throw doubt on Gontscharukow's results. As far as any results were obtained from his experiments, they were that an attempt to produce cytotoxins capable of destroying cells or glands *in situ* was a failure, but it may be possible that a material was produced in geese which, combined with the normal secretion of the dog's thyroid or parathyroid, might neutralize it and cause the symptoms that ordinarily follow extirpation to be mitigated in certain instances. He also experimented with parathyroid excision and remarks on the symptoms produced, which are somewhat similar to those of exophthalmic goiter. He concludes that it is probable that the parathyroid produces a material that neutralizes poison produced elsewhere and that the poison thus neutralized can be mechanically washed out with relief of the symptoms. He was able to relieve the symptoms produced by parathyroid excision by injecting the blood of a normal dog into the veins of a dog suffering from removal of these glands and the result was complete relief. He also experimented to determine whether the effects were on the roots of the motor nerves or higher, and concluded that it was not alone the neurons of the anterior horns, but the upper motor neurons were also affected. Urinary examinations were made and the results of all the experiments seemed to show that there was a distinct difference between the effect of the parathyroid and thyroid glands, the latter more or less controlling metabolism; the former having apparently an entirely different function. The question whether exophthalmic goiter is the result of thyroid insufficiency is unsettled, but he thinks it is doubtful that such is the case since we know that extirpation of the thyroid, including the parathyroid, relieves the condition in many cases. He has lately been treating a woman suffering from exophthalmic goiter with parathyroid, but so far without results.

25. The Skin Lesions of Rapid Growth.—Northrup describes and illustrates a case of lineæ albicantes of the knee occurring after typhoid fever in a rapidly growing youth, and quotes from Comby's work on children's diseases, the only one in which he has found a description of similar conditions.

26. Caffein in Alcoholic Toxemia.—Hall finds that caffein administered in doses of 1 to 2 grains every one, two or three hours will usually so effectually quench the thirst or craving for alcohol in twenty-four or forty-eight hours that most confirmed habitués will voluntarily discontinue its use. He reports four cases. Where there is insomnia due to the caffein, it is different from the insomnia of alcohol, and much less disagreeable. He does not advocate caffein as a specific, but it appears to be a physiologic antagonist to alcohol as much as belladonna is to opium. If this is once established, the contention that alcoholism is a disease will have to be abandoned, and the fact that it is a toxemia must be admitted.

27. Leukemia.—Blumer and Gordinier give carefully reported cases and discuss the pathology. They conclude that while myelogenous leukemia is invariably a disease of the bone marrow, lymphocytic leukemia may be a disease either of the lymph apparatus, the bone marrow, or of both. They further express the belief that specific differences exist between the blood picture of the different forms.

Cincinnati Lancet-Clinic.

October 31.

- 28 On the Technic of Amputating in the Presence of Suppuration, Gangrene or Mortification. Thomas H. Manley.
 29 Chorionic Villi. James W. Rowe.
 30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

October 31.

- 31 The Medical Expert. Edward O. Plumble.

University of Pennsylvania Medical Bulletin, Philadelphia.

October.

- 32 *Acute Lymphocytic Leukemia, with Reference to Its Myelogenous Origin. A. O. J. Kelly.
 33 Primary Cancer of the Lung. J. H. Musser.
 34 *Diabetes as a Complication of Pregnancy. Alfred Stengel.

32. Acute Lymphocytic Leukemia.—Kelly says our knowledge warrants the following opinions: The clinical manifestations and the blood pictures of leukemia justify the usual division into two clinical varieties, called the lymphatic and the myelogenous (or splenomedullary). Since, however, the so-called lymphatic leukemia may occur with little or no alteration in the lymph glands, and there is good evidence for believing that, whether these enlarge or not, the typical leukemic blood picture does not develop until the bone marrow becomes affected, the bone-marrow lesions appear to be the essential ones, and as both varieties of leukemia are myelogenous in origin, the terms lymphatic and myelogenous seem hardly appropriate. He prefers to distinguish the two classes as lymphocytic and myelocytic leukemia. There is no special line of demarcation between the two types, as transition forms occur. The disease, probably in all the cases, is the result of proliferation of bone marrow, but it is also likely that some of the circulating lymphocytes in lymphocytic leukemia are formed in the lymphoid structures elsewhere. The differences in the clinical course of the disease are probably attributable to differences in the chemotactic agent, whatever it may be, whether an infection or intoxication. He is inclined to attach much importance to the large mononuclear non-granular cells of the bone marrow in these cases, believing that it may form large lymphocytes or myelocytes, its development in one or the other direction being influenced by the nature of the chemotactic agent concerned. It is possible, too, that time has something to do with it; the basophile cells are looked on as the younger form, while the neutrophile cells and their derivatives are of the older growth. At present there is no way of distinguishing, when found in the blood, the lymphocyte derived from the lymph gland from that derived from bone-marrow, but it is probable that those found in the circulating blood in the healthy are derived entirely from the lymph glands, while those occurring in lymphocytic leukemia are derived in large part, and in some cases exclusively, from the bone marrow. Finally he remarks that the clinical manifestations of acute lymphocytic leukemia are especially of interest in their marked resemblance to typhoid fever. There is reason to think, he says, that some cases have been presumed to have been typhoid fever, and the error has not been rectified even at the necropsy. The differential diagnosis is by examination of the blood and by microscopic examination of the tissues.

34. Diabetes in Pregnancy.—The cases of diabetes developing during pregnancy are discussed by Stengel, who reports observations and refers to a number of histories by Matthews Duncan, who also tabulates reported cases. The most important question is that of prognosis. It is correct to assume it to be a condition of great gravity, but the seriousness of the condition has perhaps been overestimated. While the results for both mother and child are dangerous they are less frequently so than has been generally supposed and Stengel thinks that careful hygienic, dietetic and medicinal treatment should always be resorted to. Increasing glycosuria, diaceturia, grave weakness and rapidly increasing emaciation would, of course, suggest prompt intervention.

Northwest Medicine, Seattle, Wash.

October.

- 35 *A Few Reasons for Early Operation in Gallstone Disease. Park W. Willis.

- 36 A Philosophic Review of the Crowning Sin of Civilization. Ernest Crutcher.
 37 Hypodermic Injection of Pilocarpin. R. W. Perry.
 38 The Lumbicoid of the Tropics. J. S. Stott.
 39 The Value of the Blood Examination. Robert M. Stith.

35. Gallstone Disease.—Willis reports cases and asserts that almost certain and permanent relief may be afforded by early operation with very slight risk to life and slight discomfort; otherwise there is liable to be serious trouble and possible malignancy. He questions the statement that the gall bladder has no function, and does not believe in cholecystectomy as a rule.

In the discussion following, Dr. Hutchinson held that the gall bladder was an entirely useless organ and practically obsolete, like the appendix, and should be removed whenever it causes trouble. He did not consider that gallstone was the cause of cancer, but vice versa.

Wisconsin Medical Journal, Milwaukee.
 October.

- 40 The Diagnosis of Hysteria. Hugh T. Patrick.
 41 The Etiology of Some Pensioned Disabilities Measured by Modern Pathology. W. T. Sarles.
 42 *Displacement of the Uterus. Gustave A. Kletzsch.
 43 Immunity and Its Relation to Surgical Pathology. J. M. Dodd.

42. Uterine Displacements.—Kletzsch says that every effort should be made to correct uterine malposition. If out of place, the general health of the patient must suffer sooner or later, but malposition alone is not the sole cause of this; the lacerated, subinvolved and relaxed pelvic tissues contribute their part. We know, moreover, that retroversion or flexion is the first step toward prolapse, and neglect may make the conditions still more difficult to remedy. As regards operation, he says the ordinary Alexander operation ought only to be done in cases of pure displacements; if complicated by adhesions or procidentia uteri, this operation will fail. Vaginal fixation may bring the body of the uterus forward, but it destroys one of the main points of support, that is, to the base of the bladder and pelvic fascia, and this in time permits sagging downward. Fixation to the anterior abdominal wall may raise the uterus above the plane of the pelvis, below which it belongs, and also fix the fundus unnaturally, but to Kletzsch it is, nevertheless, the best operation for the great majority of cases. It must be supplemented by repair of any lacerations of the cervix or perineum, otherwise it will fail.

Denver Medical Times.
 October.

- 44 Address, Rocky Mountain Interstate Medical Association. C. H. Soller.
 45 Some of the More Unusual Complications of Syphilis. William E. Bernart.
 46 *The Deleterious Effects of the Excessive Use of Salt Chlorid of Sodium. (To be continued.) W. B. Parsons.
 47 Hay Fever, Pollen Asthma, or Summer Catarrh. W. W. Woodring.
 48 Relation of Orthopedics and Radiography. Byron C. Leavitt.

46. Chlorid of Sodium.—The experience of Parsons with chlorid of sodium has been rather peculiar. He had been an excessive salt eater, but at least eight years ago he began to have dizzy spells and hallucinations, also peculiar brain sensations and loss of memory. He had been a user of alcoholic liquors, sometimes enough to feel their effects, for twenty-five years. Thinking that this might be the cause he stopped, but without result. Then for a month he quit tobacco, which he had been chewing for many years, but with no change. Finally it occurred to him that salt might be the cause. He began to investigate, finding that salt in certain animal organisms was poisonous, and referring to his own clinical experience he found a case somewhat similar to his own. He therefore stopped the use of salt, with the result of the relief of all unpleasant symptoms, which again appeared on its re-use, hence he thinks salt was the cause of all his trouble. (His article is to be continued.)

New Yorker Medicinische Monatschrift.
 September.

- 49 Hayti—Klima und Krankheiten. A. Herzfeld.
 49. Hayti; Its Climate and Diseases.—Herzfeld considers the climate of Hayti not unhealthy for the tropics. On the lower coast dirt and deteriorated civilization is the rule. He gives

a black picture of the condition of the Haytian towns, but the minute one steps out of them one meets the most charming tropical vegetation. The diseases and climate are those of the tropics. After the European has been there for some months he generally suffers from the so-called local fever and then dysentery. The so-called "red dog," a sort of dermatitis caused by the sun is common, and he finds zinc stearate compound one of the best remedies. The habits of the sojourner there are generally bad as regards excesses. Cholera is not yet known; yellow fever occurs in epidemics; typhoid is not rare, and malaria in all its forms is frequent. Pneumonia and acute and chronic rheumatism are not rare in the coast region. Lepa and elephantiasis are frequent among the lower classes. Gonorrhea and syphilis are exceedingly common, and the blacks seem to be reckless and ignorant in regard to them. The drinking water is generally good and obtained through the old French aqueducts. The white population drink it mixed with rum "to kill the bacilli." The dwelling houses of the old Spanish style are good and are usually furnished abundantly with baths. The natives all take baths in a very primitive way, males and females together. He concludes by stating that Hayti is not yet afflicted with Eddyism and osteopathy.

Cleveland Medical Journal.
 October.

- 50 *A Brief Résumé of the Literature on the Involvement of the Spinal Nerves and Cord in Influenza. Edward P. Carter.
 51 *Cases of Isolated Paralysis of the Suprascapular Nerve. Frank E. Bunts.
 52 Nephrectomy, Indication for, with Report of Five Cases. Henry A. Becker.
 53 The Passage of an Open Safety-pin Through the Intestinal Canal. Hunter H. Powell.

50. Influenza.—Carter's résumé of the literature seems a fairly complete study of the subject. He concludes that under certain conditions the influenza toxin exhibits a remarkable predilection for the spinal nerves and cord, giving rise to a neuritis of the trunks of the peripheral nerves closely resembling that following diphtheria. In the spinal cord it is capable of reproducing almost any one of the pathologic conditions. As a rule, the involvement of the nerve trunks is very late, sometimes after the establishment of convalescence, and it is peculiar in not showing any affinity for any single nerve or group of nerves, but in being scattered. Recovery generally occurs rapidly after the subsidence of symptoms, though the case reported by Putnam and a number of instances by Franke appear as examples of chronic post-influenzal neuritis.

51. Paralysis of the Suprascapular Nerve.—Bunts has collected cases and discusses the etiology, pathology, etc. It seems to be due to sudden trauma or neuritis from other causes or associated with contusion or laceration of the nerve or loss of its continuity. The symptoms are summarized by him as: 1. Depression or shallowness of the supraspinous and infraspinous fossæ. 2. The impairment of external rotation of the arm. 3. Frequently a weakness in the elevation or abduction of the arm. 4. A probable slight displacement of the scapula. The diagnosis is not difficult, as a rule, but where it is obscure a few successive examinations, including electric reactions, will reveal the condition. It can not in all cases be made immediately; its rarity allows it sometimes to escape observation unless important symptoms are present. He thinks that cold and rest is the best treatment for cases due to sudden trauma, and suggests study of the synergistic action of other muscles that might be substituted for the paralyzed ones.

Old Dominion Journal, Richmond.
 October.

- 54 X-Ray Therapy, with a Report of Cases. Ennion G. Williams.
 55 *The Accurate Estimation of Pulse Tension. Henry W. Cook.
 56 *Perineal Prostatectomy, with Report of Two Cases. J. Shelton Horsley.
 57 Report of a Typical Case of Exophthalmic Goiter. William H. Lyne.
 58 Some Remarks on the Importance of Otorrhea. Clifton M. Miller.

55. Pulse Tension.—The importance of pulse tension in obscure brain lesions, comatose conditions, typhoid, pneumonia, etc., are noted by Cook, who mentions the remedies that are

International Medical Magazine, New York.

October.

- 128 Questions and Answers Concerning Gonorrhea in Women.
- 129 The Diagnosis of Gonorrhea in the Female. William B. Small.
- 130 The Topical Treatment of Gonorrhea in Women. W. A. Newman Dorland.
- 131 Laceration and Congenital Split and Erosion of the Cervix Uteri. Henry D. Beyen.
- 132 Painful Incarceration of Eleventh Rib. A. L. Benedict.
- 133 Clinical Notes of a Case of Hyperchlorhydria Successfully Treated by Mechanical Vibratory Stimulation. George I. Rochelle.
- 134 Gonorrhea in Women. E. E. Montgomery.

Interstate Medical Journal, St. Louis.

October.

- 135 Review of Eight Years' Work at the St. Louis Insane Asylum. Edward C. Runge.
- 136 Astereognosis in a Case of Tabes. Frank R. Fry.
- 137 Ocular Examination as an Aid to the Early Diagnosis of Multiple Sclerosis, with Report of a Case. John Green, Jr., and Sidney I. Schwab.
- 138 The Reflexograph and Its Uses—Being an Apparatus to Automatically Measure Time and Chart the Knee-jerks, and for Other Purposes. J. M. Bradley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 24.

- 1 The Study of Structure in Relation to Function. W. H. Allchin.
- 2 *On the Importance of Accurate Muscular Analysis in Lesions of the Brachial Plexus; and the Treatment of Erb's Palsy and Infantile Paralysis of the Upper Extremity by Cross-Union of the Nerve Roots. Wilfred Harris and V. Warren Low.
- 3 The Physical Examination of the Upper Regions of the Chest. E. Lloyd Jones.
- 4 *Discussion on the Treatment of Gastric Ulcer. Thomas D. Griffiths, H. D. Rolleston and others.
- 5 Discussion on Susceptibility and Infection. Robert J. M. Buchanan and others.
- 6 *The Treatment of Pulmonary Tuberculosis by Formaldehyd. D. I. Chowry-Muthu.
- 7 Spinal Puncture in "Uremia." D. C. McVail.
- 8 *The Comparative Value of Oral and Rectal Temperatures in the Study of Pulmonary Tuberculosis. T. N. Kelynack and Sydney R. Williams.
- 9 The Mineral Water of Llangammarch Wells. W. Black Jones.
- 10 Discussion on the Results of Treatment of Malignant Diseases by Electrical Methods. Lewis Jones and others.
- 11 A Discussion on the Treatment of Tuberculous Disease by Electrical Methods. Chisholm Williams and others.
- 12 *Some Points in Practical Muscle Testing. W. S. Hedley.
- 13 Use of Electricity in the Treatment of Affections of the Digestive Organs. George Herschell.
- 14 The X-rays as a Diagnostic Agent in Pulmonary Conditions. Joseph S. Bolton.
- 15 *Discussion on the Pathology of General Paralysis of the Insane. W. Ford Robertson and others.

2. Erb-Duchenne Paralysis.—Harris and Low report and discuss three cases and conclude that the fifth cervical is chiefly involved. A study of the articles of Thornburn and Sherrington and a remarkable case of Markoe seem to prove that motor innervation of the deltoid, spinati, biceps and brachialis anticus is derived from the fifth cervical root and they, therefore, operated, uniting this root to the sixth. In no case has the time elapsed been sufficient to judge as to the perfect success, but the results thus far seem promising. The operation, while it has some difficulties, is not an impracticable one, and is worth trying. There will have to be some relearning of the muscles and co-ordination of impulses with the new connection, but the authors say in all probability the nearer the two nerves are to one another in respect to the cord segment to which they belong the less the difficulty will be after cross-suturing in overcoming any tendency to inco-ordination. They, therefore, recommend suturing the fifth root into the sixth rather than into the seventh in such cases, as they consider that the sixth is not affected in the ordinary form of this paralysis. They also specially urge the importance of employing careful faradic stimulation of the nerve trunks in all such operations as an aid to accurate scientific diagnosis.

4. Gastric Ulcer.—Griffiths treats all his cases of gastric peptic ulcer by putting the stomach absolutely at rest and abundant rectal feeding. The patient is put to bed for at least twelve days, the bowels cleaned out by enemata and rectal feeding commenced almost immediately. Nutrient ene-

mata at a temperature of 97 to 100 are given every four hours and in the intervals drink enemata given according to the needs. He does not allow the patient to take any liquid by the mouth, and the stomach should be kept absolutely quiet. He specially mentions the condition of the tongue and the smell of the breath as valuable guides to the efficiency and sufficiency of the rectal feeding. When it is sufficient the tongue is moist and healthy, and the breath is sweet, while that of a starved patient has a peculiar offensive smell, which is hard to describe; perhaps the closest to it is the drunkard's breath. Moreover, the patient is comfortable when sufficiently fed. When the rectum is intolerant of an artificial enema, which rarely occurs, he would give a few minims of laudanum, 5 to 10 minims, two or three times in the twenty-four hours. Feeding by the mouth is very carefully begun on the eleventh day.

Rolleston follows much the same lines, forbidding all water or any food by the mouth and relies on rectal injections entirely. As regards medicinal treatment he would try potassium iodid in chronic gastric ulcer of adult males, as there is a possibility of specific character. The importance of local treatment of the mouth can not be overestimated. Carefully washing out the stomach with mild antiseptic solution or water or the running in of a large amount of bismuth are sometimes usefully employed. Of course the symptomatic treatment of the patient is sometimes required. Parotitis, which is a complication occasionally seen in gastric ulcer with rectal feeding, rarely requires operation. Apart from perforation the only acute complication which requires operation in gastric ulcer is repeated hemorrhage, which does not yield to medical treatment and endangers life. He speaks of the importance of oral sepsis in producing vomiting. He has seen striking benefit from counter-irritation by blisters to the epigastrium. In chronic gastric ulcer operation is justified when there is constant pain not relieved and when there is an intermittent or permanent pyloric obstruction and lastly, when hematemesis recurs in spite of the medical treatment.

6. Tuberculosis.—Chowry-Muthu reports the results of treatment of pulmonary tuberculosis by the inhalation of formaldehyd or creosote vapor in connection with the open-air treatment. Notwithstanding the use of the latter, he thinks the drug treatment had its effects. He has also tried intravenous injection and considers it also of value. He speaks well of the electric treatment on the Crotte plan. The open-air treatment, he says, requires a great sacrifice of time and means, and should be supplemented by something else. Serum-therapy is in its infancy. Special drugs by the mouth are disappointing. Tuberculin has not yet developed. The continued inhalation and vapor treatment by formaldehyd is simple and can be used in all cases. The intravenous injection used with gas should be given a trial in the early cases, and if it does no good it at least does no harm. The electric treatment is plausible and hopeful.

8. Tuberculosis.—The comparative value of oral and rectal temperatures of pulmonary tuberculosis is discussed by Kelynack and Williams, whose conclusions are as follows:

1. Temperatures carefully taken in the mouth during rest form a reliable guide in the management of phthisical cases under conditions of sanatorium life. 2. Temperatures taken in the mouth during or shortly after exercise can not be considered trustworthy unless registered with such precautions as militate against their general practical applicability. 3. Temperatures taken in the rectum during rest, generally speaking, register higher than in the mouth, but do not otherwise usually afford any special assistance in the management of phthisical cases. 4. Temperatures taken in the rectum during or shortly after exercises, in both healthy and phthisical subjects, register a temperature considerably higher than that in the mouth and, while in the non-tuberculous the return to normal is more rapid than in the tuberculous, no special direct advantage for the phthisical appears specially to accrue from this method. 5. For practical purposes in the management of phthisical cases undergoing so called sanatorium treatment the registration of temperature by the oral method, when taken during rest and with due care, affords reliable guidance.

12. Muscle Testing.—Hedley calls attention to the degenerative reaction as an important diagnostic aid. He thinks that with all the new things, the medical man is in danger of forgetting older valuable methods. The practical clinical point he makes is that while increased anodic contraction with decreased cathodic contraction—which is given as an essential point in the recognition of degeneration by some—is an important

symptom of dégénération, we must not expect it to be always present as its appearance depends on the realization of many conditions.

15.—See abstract in *THE JOURNAL* of September 12, p. 678.

The Lancet, London.

October 24.

- 16 The Study of Structure in Relation to Function. W. H. Alchib.
- 17 *On the Effect of Perforation of the Colon by Small Foreign Bodies, Especially in Relation to Abscess of an Epiploic Appendix. J. Bland-Sutton.
- 18 The Correction of Hereditary Tendencies. Samuel Wilks.
- 19 *On the Use of Pure Carbolic Acid in the Treatment of Smallpox. A. E. Brindley and F. W. Bonis.
- 20 *A Simple Method of Performing Intestinal Union. Alexander MacLennan.
- 21 On the Value of Saline Infusion in the Treatment of Enteric Fever. D. G. Marshall.
- 22 The Value of Blood Examinations in Abdominal Diseases. C. J. Nepean Longridge.

17. **Colon Perforation.**—Bland-Sutton reports and illustrates two cases which show that a foreign body may perforate the large intestine and lodge in an epiploic appendix. The bodies in these cases were pieces of straw and metal. These foreign bodies are enclosed in fecal concretions which show how angular and dangerously pointed bodies may traverse the colon and be safely ejected without harm to the host. Common as anal abscess is, he thinks it stands in very small proportion to the number of cases where small foreign bodies are daily ingested and ejected.

19. **Carbolic Acid in Smallpox.**—Brindley and Bonis report the results of cases in which smallpox was treated by penciling the vesicles with pure carbolic acid. The effect was shown in the rapid shriveling up and scabbing of the vesicles. Two or three applications may be made if necessary over certain parts of the body. An important part of the treatment is the securing of early removal of scabs by oil poultices or otherwise to prevent subsequent abscess formation. The action of the drug is not irritating, but rather palliative, and appears to be a local one, the acid penetrating the walls of the vesicles and disinfecting their contents. The total number of cases thus treated was 35, of which 22 were of the severe kind, mostly confluent; 5 were fatal, 2 of these were complicated with scarlet fever, and a third was malignant smallpox with subcutaneous hemorrhages. A large number of the cases had never been vaccinated.

20. **Intestinal Anastomosis.**—The method here described by MacLennan consists in a curved, slightly tapering bone bobbin, the narrow end of which is inserted into the proximal end of the gut. It is fixed there by a ligature which binds the intestine into the outermost groove (A). Over this ligature is placed a plain rubber ring similar to an umbrella ring, which must be tight, but not too tight to prevent its being easily placed in position. The proximal end of the intestine so armed is inserted into the distal end of the gut far enough for it to cover the second groove (B). The distal end is ligatured into this groove over the proximal end in a manner similar to that by which the proximal end is fixed to the bobbin. The rubber ring under the distal end of the bobbin then has to be gently manipulated backward from its resting place over the first ligature in groove A and past groove B, lodging at last into the most inner groove (C). The conical shape of the bobbin favors this manipulation. Care must be taken that it is not pushed beyond groove C. Union is then completed by stitching the cut borders of the mesentery. Eventually all distal to the rubber ring comes away. The operation is an easy one to perform and takes much less time to carry out than to describe.

Revue de Chirurgie, Paris.

Last indexed page 937.

- 23 (XXIII, No. 10.) *Mother-of-pearl Workers' Osteomyelitis. A. Broca and P. Tridon.—Osteomyélite des nacrifères.
- 24 *De la splénectomie dans la splénomégalie avec hépatopathie cirrhotique (type clinique, maladie de Banti). E. Quénu and P. Duval.
- 25 *Entrance of Air Into Veins During Gynecologic Operations. X. Delore.—De l'entrée de l'air dans les veines pendant les opérations gynécologiques.
23. **Pearlworkers' Osteomyelitis.**—Ignorance of the subject's trade may lead to an erroneous diagnosis, as this affection may simulate a tuberculous osteitis or subacute osteo-

myelitis. The surgical treatment necessary for the latter is useless, if not injurious, in pearlworkers' osteomyelitis, which subsides promptly on removal of the cause with complete return of the functions of the parts. In a case described in detail—the first in France—removal of the cause, with rest, was all the treatment Broca attempted, and recovery was complete in two months. The affection appears about the time of puberty, and is characterized by a hard, painful tumefaction of one or more bones of the limbs or face, gradually extending. It develops in the course of a few weeks or months, with slight general symptoms, and then subsides spontaneously, but displays a tendency to recurrence.

24. **Splenectomy in Banti's Disease.**—Quénu and Duval had a patient with splenomegalia and cirrhosis of the liver under observation for a long time, but the symptoms were bearable. Another patient exhibiting the same but severer symptoms was treated by extirpation of the spleen. Comparison of the course of the two almost identical cases shows the great benefit derived from the operation, the first of its kind in France. The spleen showed excessive development of some of the veinules and capillaries, with sclerosis of the trabecular tissue and atrophy or, at certain parts, actual disappearance of the malpighian corpuscles. In this case and in 3 reported by Banti, in which the cirrhosis of the liver had been clinically recognized, all treated by removal of the spleen, the patients were all restored to health except one, who succumbed to puerperal septicemia. There was no postoperative hemorrhage in any instance, and one of the subjects who had had hematemesis before was not troubled in this way afterward. The liver affection seems to retrogress, or at least be arrested, after the splenectomy, evidently due to the removal of the cause. Bessel-Hagen advocates splenectomy at any stage of the disease, but Quénu would restrict it to cases in which the patient was incommoded by the size of the spleen. Until this occurs he would not venture to remove it on theoretic grounds alone, and therefore refrained from intervention on his first patient. The patient operated on has recovered complete health, has married and borne two healthy children. The recovery was equally pronounced and permanent in Banti's cases treated by splenectomy, and, on the other hand, there is not a single case on record of recovery of a patient not operated on. Removal of the spleen is an empiric procedure, but experience shows that it cures the disease. The same result may possibly be secured by combining omentopexy and splenopexy, as suggested by Schani, but this has not yet been tried in the clinic.

25. **Entrance of Air into the Veins During Operations.**—Delore has been studying this subject since he witnessed the death of a woman from this cause during an abdominal, subtotal hysterectomy. He reviews the history of what is known in regard to the effects of air in the veins, both in experimental research and in the clinic. The fact is well established that sudden entrance of air into the veins is liable to prove fatal, and that dilatation of the veins is a predisposing factor. Another important factor is extreme anemia, noted in the case described and also in one reported by Biermer under the title of gaseous embolism during enucleation of a uterine myoma. The air replaces the lacking blood in the veins. It is possible, likewise, that the Trendelenburg position may have favored the introduction of air in the 2 cases mentioned. Thoracic aspiration is undoubtedly the cause of the entrance of air, and it might possibly be prevented by preliminary hemostasis in cases of pronounced anemia. Section of the vein between two forceps not only prevents hemorrhage but also entrance of air. When the air has entered, the opening in the vein should be closed at once to prevent further influx. Bégouin's experiences with animals are instructive. After insufflating air into the jugular vein of rabbits and dogs, he introduced a Dieulafoy aspirator into the right ventricle. As the air escaped the animal resumed the appearance of health while all the controls were rapidly dying. Insufflating more air later again into the vein after recovery, without subsequent aspiration, was followed by the almost immediate death of the animal. The results of these experiences

have not been applied to man, but puncture of the right ventricle might be advisable as a last resort in case of sudden penetration of air into the veins entailing distention of the right heart and alarming symptoms. When the air enters more gradually, even a much larger amount may be tolerated by the subject without much disturbance and with ultimate recovery.

Semaine Médicale, Paris.

- 26 (XXIII, No. 41.) *Des colorations du liquide céphalo-rachidien d'origine hémorragique. L. Bard.
- 27 De la splénophtérite. Rommelaere.
- 28 Recherches sur la fonction motrice de l'utérus. Maslus.
- 29 Letter from America. Le nègre des Etats-Unis au point de vue médico-chirurgical. F. Munch.
- 30 Anesthésie obstétricale par injections épidurales de cocaïne. Jambon.

26. Diagnostic Significance of the Color of the Cerebrospinal Fluid.—Bard has long been expatiating on the importance of the information to be derived from his "three-tube test" examination of the tint of the centrifugalized fluid derived by lumbar puncture. Out of 300 cases in which lumbar puncture was made, the fluid showed an abnormal tint in 20. Besides the tint it is possible to examine the cytology of the fluid, the permeability of the meninges to iodid of potassium from without inward, and the variations in the hemolytic power of the fluid. In regard to the cytology, only the finding of desquamated endothelial cells has much diagnostic value. The permeability of the meninges to potassium iodid, previously ingested, may be useful, perhaps, in case of a non-hemorrhagic fluid, but in case of blood it does not convey any information as to whether the blood entered by transudation or by irruption. The variations in the hemolytic power of the cerebrospinal fluid are valuable indices, as under normal conditions the fluid does not dissolve the reds of the subject except at a dilution of 12 drops of distilled water to 10 drops of the fluid. In case of meningeal hemorrhage this power is augmented, and 4 to 6 drops of distilled water produce the same effect as the 12 drops in normal conditions. High hemolytic power is therefore a sign of a hemorrhagic lesion, while the reverse indicates an accidental hemorrhage. When the centrifugalized fluid exhibits a yellowish tint not due to hemoglobin, it is probably due to a pigment derived from hemoglobin left from old hemorrhagic exudations.

Beiträge zur klin. Chirurgie, Tübingen. Last indexed page 1172.

- 31 (XXXIX, No. 2.) *Zur supracondylaren Fraktur des Oberarmes. H. Hilgenreiner.
- 32 Ueber operative Behandlung der progredienten eitrigen Peritonitis. W. Weber.
- 33 *Zur Winkelmannschen Hydrocele-Operation. T. Suzuki.
- 34 *Permanent Cures After Gallstone Operations. A. Schott.—Dauerheilungen nach Gallensteinoperationen.
- 35 *Operative Treatment of Gastric Cancer at Zurich. Schönholzer.—Die Chirurgie des Magenkrebses an der Krönlein'schen Klinik, 1881-1902.
- 36 Fall von muskulärer Makroglossie. P. Lengemann.
- 37 *Remote Results of Treatment of Actinomycosis at Tübingen. G. Heinzelmann.—Endresultate der Behandlung der Aktinomykose in der von Bruns'schen Klinik.
- 38 Occurrence of Lymph Glands in Cheek Substance. Trendel.—Ueber das Vorkommen von Lymphdrüsen in der Wangensubstanz und ihre klinische Bedeutung.
- 39 (Supplementary No.) Report of Czerny's Clinic, Heidelberg, for 1902.

31. Fracture of Upper Arm Above the Condyle.—Hilgenreiner emphasizes the necessity for differentiating between fracture from extension and fracture from flexion, as they require opposite treatment. He recommends early massage, and as soon as consolidation has occurred, tepid baths and active movements. He has observed 21 cases and describes them, with 30 radiographs and a review of the literature. Two-thirds of the cases occur between the fifth and tenth year.

33. Operation for Hydrocele.—Suzuki reports 33 cases operated on by Winkelmann's technic. In the majority the suture could be removed the fifth to the eighth day, and the patient could be dismissed the eighth to the tenth day. The operation was done with Schleich's anesthesia in most instances. Out of a total of 137 cases on record to date, recurrence has been noted in only 6. The method seems to be preferable to all others, as the intervention is insignificant, the healing is more rapidly completed, general narcosis is not necessary and the subject can be treated as an out-patient.

34. Remote Results After Gallstone Operations.—Schott reviews the experiences at Heidelberg with 180 patients operated on for gallstones. A later series of 170 cases is not included in this summary. In 11 per cent. stones were discovered later; in 8 per cent. emerging through the fistula. There was recurrence of pains in 1 per cent., with icterus in 10 per cent. of the conservative operations and in 15 per cent. of the drained cases. Bile fistula occurred in only 4.4 per cent., while in previous years the proportion was 9.1 per cent. Czerny ascribes this better result to his present practice of fastening the gall bladder to the parietal peritoneum and inserting a drain tube to which the edges of the wound cling so closely that the mucosa of the gall bladder does not project into the abdominal wound, interfering with its healing. Gastro-intestinal disturbances were noted in 36.6 per cent., probably due to formation of adhesions. In the total 180 cases followed for from five to six years there has been permanent cure of the tendency to biliary lithiasis in 95 per cent. Genuine recurrence of stones was not observed in a single instance, and in only 5 per cent. have symptoms developed which could possibly be attributed to the biliary system. The mortality of gallstone operations has been reduced to 5 per cent. and of cystostomy to 1.3 per cent. Cystectomy shows only 20 per cent. mortality and choledochotomy only 4.4 per cent., in comparison to the 12 per cent. of former series operated on. These percentages justify early operating in case of gallstones.

35. Surgery of Gastric Cancer at Zurich.—Schönholzer continues his review of Krönlein's operations. In this part he gives the details of 55 cases of gastrectomy with 27.2 per cent. mortality, and of 91 gastro-enterostomies, with 23 per cent. mortality.

37. Actinomycosis at the Tuebingen Clinic.—Heinzelmann reports 56 cases operated on since 1885. The prognosis depends on the localization of the process permitting extirpation. Of 39 cases in which the face was affected 98.7 per cent. were permanently cured. Of the 11 cases of abdominal actinomycosis, 27.2 per cent. were cured. Potassium iodid is always given in addition to the operative intervention.

Centralblatt f. Chirurgie, Leipsic.

- 40 (XXX, No. 40.) Zur Frage der retroduodenalen Choledochotomie. F. de Quervain.
- 41 Ein neuer Operations- und Extensions-Tisch (table). A. E. Stein (Wiesbaden).
- 42 (No. 41.) *Radical Operation of Inguinal Hernia Based on Anatomic Relations. C. Hofmann (Cologne).—Zur Radikaloperation der Leistenhernien, mit bes. Berücksichtigung der anat. Verhältnisse.
- 43 (No. 42.) *Combination of Rubber and Lisle Thread Gloves. Goepel.—Ueber die Verbindung von Gummi- und Zwirnhandschuhen.

42. Operation for Inguinal Hernia.—Hofmann remarks that in incipient inguinal hernia he has always been impressed with the large size of the internal ring, evidently congenital. He has also noticed that the spermatic cord seems to separate into its parts toward the back of the inguinal canal, and the hernia may find its way through between them, instead of merely pushing the cord—as a whole—to one side. He thinks it important not to touch the tissues with the fingers, and to open up the entire hernial sac and internal inguinal ring. The sac is then dissected out from the rear forward, carefully refraining from disturbing the funiculus spermaticus, leaving it unmolested in its nest. The operation then proceeds as usual, laying the main stress on the obliteration of the sac at the level of the parietal peritoneum and providing a support for it at the internal inguinal ring with one or more sutures of wire. The normal anatomic relations are carefully regarded and reproduced, the spermatic cord not removed from its place. He applies the supporting suture by passing the wire or other material through the internal oblique, then through the transverse fascia of the posterior wall of the inguinal canal, passing between the separate parts of the spermatic cord, and finally through the everted Poupart ligament. Tying the ends of the suture closes completely the inguinal canal without injuring the parts of the spermatic cord. The closure is more complete than with a Bassini.

A year has passed since he first began using this technic, and the results have been perfect to date.

43. Combination of Rubber and Thread Gloves.—The advocates of rubber gloves and of thread gloves are informed by Goepel that the advantages of both, with none of the drawbacks of either, are combined by simply drawing a pair of thread gloves over a pair of rubber gloves.

Centralblatt f. Gynäkologie, Leipsic.

- 44 (XXVII, No. 40.) Eklampsie, enorme Placenta. R. Koenig.
 45 4 Fälle von Eklampsie. Windisch-Oedön.
 46 Funnel Pelvis. W. P. Richter.—Zur Frage des ("einfachen") Trichterbeckens.
 47 (No. 41.) 2 Fälle von Uterus-Ruptur. J. Lovrich (Budapest).
 48 Zur Sectio cesarea, 6 Fälle mit günstigem Ausgang. A. v. Valenta.
 49 Nochmals über meine Modifikation des Hegar'schen Nadelhalters (needle holder). G. Burchard.
 50 (No. 42.) *Strumektomie als Noth-Operation in der Schwangerschaft (pregnancy). R. v. Fellenberg.
 51 Spontaneous Healing of a Cervico-vaginal Fistula, and of Rupture of Uterus a Year Later in Another Pregnancy. Gallatla.—Ein seltener Fall einer Spontanheilung einer Blasenervixfistel, sowie ein Jahr darauf erfolgter Uterus-ruptur bei neuerlich eingetretener Schwangerschaft. Heilung.
 52 *New Obstetrical Bag. R. de Seigneux (Geneva, Switzerland).—Neue geburtshilfliche Tasche.

50. Emergency Strumectomy During Pregnancy.—Fellenberg was called in 2 cases to relieve women suddenly suffocating from compression of the trachea by a goiter. The trachea was flattened to such an extent that tracheotomy alone would have been useless. After making an incision from the sternum to the cricoid cartilage, he carried it to the left in a Kocher angular incision and pushed out the incarcerated lobe, thus removing the pressure from the trachea. Artificial respiration was then applied and the patient revived, after which the remainder of the gland was extirpated at leisure. Although there had been no opportunity for disinfecting the field, the wounds soon healed. One woman bore a viable child two days later and the other healthy twins a month afterward.

52. Obstetrical Bag.—The points on which de Seigneux lays most stress include the keeping of each instrument wrapped in a separate linen bag, and placing all the instruments needed for certain interventions together, wrapping the group in a cloth fastened with safety pins. The entire bundle is then boiled; all danger of rusting is prevented by addition of a 20 gm. tablet of borax to the liter of water.

Deutsches Archiv f. klinische Medicin, Berlin.

Last indexed page 401.

- 53 (LXXVI, No. 6.) *Determination of Blood in the Presence of Other Anorganic and Organic Substances. O. Rossel (Basle).—Beitrag zum Nachweis von Blut bei Anwesenheit anderer anorganischer und organischer Substanzen in klinischen und gerichtlichen Fällen.
 54 *Animal and Human Favus. O. Wandel (Kiel).—Zur Frage des Tier- und Menschen-Favus.
 55 *Study of Case of Excessive Ascites from Thrombosis of Portal Vein. O. Schulz and L. R. Müller.—Klinische, physiologische und path.-anatom. Fall von hochgradigem As.
 56 (LXXVII, 1-2.) *Zur H. Quincke (Kiel).
 57 *Ueber Oxyuris vermicularis. A. Heller (Ibid.).
 58 *Zur pathologische Anatomie der Tetanie. R. Peters (St. Petersburg).
 59 *Experimental Study of Disturbances in Circulation in Acute Infectious Diseases. Pässler and Rolly (Leipsic).—Ueber Kreislaufstörungen, etc.
 60 Cytodiagnosis of Thoracic and Abdominal Fluids. L. v. Ketly and A. v. Torday.—Inwiefern ist die Cytodiagnostik bei der Beurteilung der Brust- und Bauchhöhlenflüssigkeiten zu verwerten?
 61 Genuine Blood-Clot Casts of Trachea and Bronchi. E. Fabian.—Echte Blutgerinnsel als Ausgüsse der Trachea und der Bronchien in einem Falle von allgem. hemorrhag. Diathese bei chron. Icterus, zugleich ein Beitrag zur Lehre von den Brachialgerinnseln.

53. Determination of Blood in Stools and Vomit.—Rossel has devised a method of blood determination which has never failed him. It revealed blood in the stools in suspicious cases of ulcer ventriculi when it was impossible to detect it by other means, and even the spectroscopic findings were negative. The results of the test were confirmed by the course of the affection. The reagent is a mixture of an aqueous solution of Barbadoes aloin, alcohol and turpentine. In testing cases in which cancer or ulcer is suspected, the subjects must refrain from previous ingestion of meats, etc., containing blood and from iron medication.

54. Favus in Man and Animals.—Wandel believes in the multiplicity of favus, his researches indicating that the favus of mice is sometimes transmitted to man, but that the latter has an individual favus. A third variety, which mostly affects dogs, is scarcely ever transmitted to man. Fowls have still another kind of favus.

55. Excessive Ascites from Thrombosis of Portal Vein.—The liver was small but the biliary secretion was normal in the case described. The peritoneum absorbed the ascites in large measure, and the amount of the fluid poured out daily into the abdominal cavity could be increased by giving a diet poor in albumin, and diminished by giving abundance of albumin, especially milk. The proportion of nitrogen in the ascitic fluid varied with the amount of nitrogenous food taken, and nitrogenized extractives were found in it. By diminishing the intake of fluids the excessive transudation could be somewhat modified and the time for the next puncture postponed a little. About 20 to 25 liters were withdrawn at each puncture. There was nothing to explain the origin of the thrombosis in the portal vein.

56. Visceral Syphilis.—Among the interesting cases described by Quincke is one in which gummatous indurations in the cystic duct and head of the pancreas could be palpated in a syphilitic subject, with typical attacks of gallstone colic, which were assumed to mean a superposed biliary lithiasis. An operation, however, disclosed that there was no tendency to gallstone formation, but a tumor was found which was not disturbed. It subsided under iodid treatment. In a second similar case the portal vein and biliary passages were compressed by a gummatous proliferation. In a third, a gumma in the mesentery had caused stagnation of stomach contents and dilatation of the organ. The gumma was nearly as large as a man's fist and had developed to this size in the course of six weeks in an old syphilitic. Measures directed against the stomach conditions proved ineffectual, but under mercurial inunctions and iodid there was marked improvement. He also reviews a number of cases of aneurisms in syphilitics and 3 of brain syphilis. One of the latter patients presented a permanently subnormal temperature.

57. Study of the Oxyuris.—Heller describes the development of these parasites and the best mode of expelling them. The eggs passing from the mouth into the stomach hatch there and the embryo then travels into the small intestine. The female travels through the cecal valve and lays her eggs on the feces or mucus in the large intestine. The life cycle from the egg to sexual maturity is about five weeks. The best mode of expelling the parasite is to attack the young brood in the small intestine by administering calomel. This seems to be particularly effectual in carrying away the intestinal mucus which protects the parasites against the action of the vermifuge. Santonin or something of the kind is then given and followed by another purgative. This expels the young; the females in the large intestine can be evacuated afterward by an injection of one to three quarts of a .2 to .5 per cent. solution of sapo medicatus, taken in the knee-elbow position. This course of treatment should be repeated in a week, and the subject instructed to avoid reinfection through the dirt under the fingernails, etc.

58. Pathologic Anatomy of Tetany.—Peters announces that the histologic study of 8 cases of tetany has revealed that it is an organic affection, the lesion consisting in an interstitial neuritis or ganglitis. The part affected is the extradural connective tissue, and the lesion is a small-celled infiltration with hemorrhages or fibrinous deposits, or a jelly-like infiltration into the epidural tissue. This interstitial neuritis affects both motor and sensory nerves in their extradural portion. The intradural and intramedullary portions are free from it, and also the peripheral nerves. The ganglitis may assume the form of proliferation of the intracapsular endothelium or of infiltration of round cells into the stroma of the ganglion, or of degeneration of the protoplasm of the nerve cells with karyolysis. The process involves the nerve roots innervating the parts that are the seat of the muscular spasms. The latter

are not merely root symptoms from inflammatory irritation of the motor nerves, but are principally due to this pachymeningitic inflammation in the sensory sphere and exaggerated excitability of the motor nerves. This overexcitability of the motor nerves is the result of mechanical compression of the motor fibers in the root region by the products of the inflammation. As the openings in the dura and between the vertebræ are about of a constant size, the effect of these local pathologic processes is most marked the larger the size of the emerging nerve roots with their vessels. As the seventh and eighth cervical roots and the lowest lumbar and upper sacral roots are the thickest, the parts innervated by these roots suffer most from the effects of the lesions. Trousseau's sign can likewise be explained by this compression of the roots and vascular congestion with the entailed overexcitability of the nerves involved. Peters adds that he has noticed a new phenomenon characteristic of tetany, constant in 78 cases examined. He calls it the "jumping-jack sign." If the anode of a current of 3 to 4 milliamperes is placed on the breast, the cathode on the spine near the fifth to seventh cervical vertebræ, the arms jerk like those of a jumping-jack when the string is pulled. The legs jerk in the same way if the electricity is applied lower down, and on one side alone if applied to one side of the median line. This jerking is evidently due to overexcitability of the nerve roots.

59. *Disturbances in Circulation in Infectious Diseases.*—Püssler and Rolly state that their experimental and clinical researches have shown that the disturbances in the circulation induced in the course of acute infectious diseases are due to vasomotor paralysis. This is compensated for a time by extra work on the part of the heart, but the heart soon suffers from lack of its usual blood supply and becomes unequal to the task. The collapse is thus due not to direct injury of the organ by the infection but to the inadequate blood supply in consequence of the vasomotor paralysis. If it is possible to restore the blood supply of the heart approximately to normal, then it resumes its work and collapse is averted. In case of diphtheria, the heart may suffer in time from the direct action of the diphtheria toxin, its resisting power being reduced under the influence of the toxin until it may finally yield even without primary vasomotor paralysis. Pneumococcus toxin does not have this injurious effect.

Münchener Med. Wochenschrift, Munich.

- 62 (L. No. 40.) Significance of Hyperglobulia in Congenital Heart Affections. E. Fromherz.—Zur Bedeutung der Hyperglobulie bei kong. Herzkrankheiten.
- 63 *Acute Inflammation of Cecum. Reisinger.—Ueber akute Entzündung des Coecums.
- 64 *Zur Lehre von der Bakteriurie. Cnopf.
- 65 Action of Carbonated Saline Waters. O. Reissner and G. Grote.—Zur Wirkung der kohlensäurehaltigen Thermalquellen nach Versuchen an Nauhelmer Bädern.
- 66 *Epidemic Pneumonia. F. Spaet (Ebern).—Ueber epidemische Lungenerkrankung. (Concluded from No. 39.)
- 67 *Ultimate Results of Operative Treatment of Lung Abscesses. Karewski.—Die chirurg. Behandlung der Lungenabszesse, insbes. deren Dauerresultate. (Concluded from No. 39.)
- 68 (No. 41.) Weitere Untersuchungen über alimentäre Albuminurie. M. Ascoli and A. Bonfanti.
- 69 *Ueber Hypæsthesie bei Appendicitis. J. Peiser.
- 69½ Zur Pathogenese der Epilepsie (multiple Angiome des Gehirns mit Ossifikation). Crette.
- 70 *Influence of Alcohol on Size of Heart. A. Bickel.—Ueber den Einfluss des Alkohols auf die Herzgrösse.
- 71 Zur Kasuistik der Nägelekrankungen. F. Berling (Kiel).
- 72 Conductibility of Organic Fluids. F. Engelmann.—Die Bestimmung der elektrischen Leitfähigkeit von Körperflüssigkeiten.
- 73 Ein Modifikation des Cooper'schen Kissens (cushion). A. Martina (Graz).
- 74 *Does Hygiene Lead to Race Degeneration? Max Gruber.—Führt die Hygiene zur Entartung der Rasse? (Commenced in No. 40.)

63. *Acute Infection of the Cecum.*—Reisinger reports two cases of apparently primary gangrenous typhlitis, in one of which constipation played an important part. In both cases the cecum alone was involved and the appendix was normal. He discusses the pathology of these cases and suggests that the peritoneal, free portion of the hinder cecal wall is less resistant than other parts, hence the danger of gangrene. He thinks the rule should be in deep-seated stenosis of the large intestine, where an artificial anus is required, that the cecum be examined and further treatment regulated by the findings. If there is danger from the cecum it would be better to make

the artificial anus at this point rather than at the sigmoid flexure.

64. *Bacteriuria.*—Cnopf reports cases of children in which an infectious fever existed at first of dubious diagnosis, but which was explained by the examination of the urine, showing infection with the colon bacillus or with other microbes. He holds that infection of the contents of the bladder may occur without irritation of the bladder wall, and produce general symptoms with which the subjective symptoms do not altogether harmonize. In order to avoid confusion it is necessary not only to examine the urine chemically, but also bacteriologically, to get a fair idea of the nature of the disease and also the possibilities of its treatment.

66. *Epidemic Pneumonia.*—A suddenly-occurring epidemic of croupous pneumonia in a small German village is reported and the probable causes discussed by Spaet. He concludes that the spread of the disease, involving as it did some 13 per cent. of the population, must have been by contagion. Pneumonia undoubtedly is a contagious disease, but the contagion seems to depend more or less on local and temporary conditions, which need further study.

67. *Lung Abscess.*—Karewski holds that while natural healing of acute cases may occur in young individuals, and in case of small foci lying in the lung apices or larger ones in the base of the lungs, unless one sees that spontaneous opening is decidedly probable, or if the abscess does not completely empty itself, it is desirable to resort to operation. Before everything else, the condition of chronic suppuration must be avoided and timely operation prevent the formation of multiple suppurative foci.

69. *Hypoesthesia in Appendicitis.*—A number of cases are reported by Peiser. Nine of them showed marked abnormalities of sensibility in the right lower abdominal region. In one it was not certain, and in another there was no disturbance. Of the 9 cases noted, hypoesthesia existed in 6, and in 2 hyperesthesia, and 1 began with lessened, but ended with increased, sensibility. The local sensory disturbances were not well defined, and Peiser was not able to fully follow up the investigation. He asks, however, certain questions as worthy of note in regard to the occurrence of diminished sensibility in appendicitis: 1. In what percentage of cases of appendicitis do we find disturbance of sensation and what proportion of hypoesthesia and hyperesthesia? 2. What common symptoms have the cases of each kind? 3. Is there a difference as regards the intraperitoneal and retroperitoneal position of the appendix? 4. Have suppurative pus collections (greater or lesser) any influence on the occurrence and form of sensory disturbances? 5. What is the relation of this disturbance to the clinical course of the appendicitis before and after operation? 6. Does the number of preceding attacks have any influence on the course or form of the disturbance? 7. What is the condition as regards sensory disturbance in persons who have gone through an attack of appendicitis, but for the time are free from the disorder? 8. How are the sensory disturbances to be explained?

70. *Influence of Alcohol on the Size of the Heart.*—The question whether alcohol increases the size of the heart has a therapeutic bearing, since if such is the case we would not be justified in using it therapeutically in certain cases where we now employ it. Bickel has experimented as to this point on animals by subcutaneous injection or forced ingestion of alcohol in dogs, then examining the condition of the heart. From his results with the aid of the Moritz orthodiagraphic apparatus he does not prove any enlargement of the heart in animals from the use of alcohol. This result agrees with the observations of Moritz in corresponding experiments on the human being.

74. *Hygiene and Race Degeneration.*—In a long article in this and a preceding number, Gruber takes up the questions which have been raised as to how far hygiene tends toward racial degeneracy. The claim has been made that, like all animals, man as he approaches his natural state undergoes a process of natural selection which benefits the race as a whole, weeding out the unfit, and all the infirmities of civilization are

perpetuated, it is said, by the care we take of our defective individuals. Bad teeth, defective eyesight, hypersensitiveness to temperature, inability to endure hardships are mentioned, and alcohol, too, is said to have a selective action in weeding out the degenerates. Thus the larger the infant mortality the better the surviving specimens. Gruber statistically proves that where the infant mortality is high the adult mortality is also high, and that hygiene, instead of causing race deterioration, seems to be an agency for greater race vitality. He reviews a number of errors which he thinks are more or less common. It is an error, for instance, to assume that a greater sensibility or lessened resistance in all cases must lead to disease and death, and not less an error to speak of an inborn physical incapacity where there is an actual special weakness which causes death. We must consider many other possible factors, and we must remember that every defective individual who is weeded out in consequence of his defects has not necessarily had that defectiveness from his birth or is a born degenerate. It is also unscientific to make any sharp distinction between defectiveness and non-defectiveness, as practiced, the one implying destruction and the latter perfection and growth. There is an infinite number of transitional stages between the two. Natural selection is no explanation of the facts as they occur in actual life, and it is poor policy to claim that the strong do not need the benefits of hygienic measures as well as the defective. He makes a special point of this as regards alcohol. While it has a limited selective action, it is nevertheless one of the most tremendous evils to the race. As regards mankind in general, the application of the principle of the struggle for life is not correct, and the improvement of the race will not be by the blind working of natural selection, but by rational race culture the chance for which is afforded to a large extent by the provisions of modern hygiene and civilization.

Gazzetta degli Ospedali, Milan.

Last indexed page 996.

- 75 (XXIV, No. 101.) *Sul laparocele inguinale e sua cura coll' emblicamento delle aponeurosi. C. Garampazzi.
- 76 *Hypodermoclysis in Influenza. E. Cioffi.—Dell' ipodermoclysi nell' influenza.
- 77 (No. 104.) Eméralopia da parotite epidemica. A. Campani. One case.
- 78 *Su la legatura simultanea dell' arteria e della vena femorale. C. Orecchia.
- 79 Water Treatment of Infants' Gastroenteritis. A. Prandi.—Le gastroenterite acute dei bambini e la cura idrica.
- 80 Una modificazione della siringa ad S di I. Petit pel cateterismo retrogrado. G. Barbanti.
- 81 (No. 107.) Della polmonite lobare acuta. G. Corsini.
- 82 Exophthalmic Goiter. G. Migliacci.—Del gozzo esoftalmico.
- 83 *Cura chirurgica radicale del varicocele. C. Viscontini.
- 84 Contributo alla chirurgia conservativa dell' ovale. E. I. Andreoli.
- 85 (No. 110.) Del intervento chirurgico in alcune forme di nefrite. A. Luxardo.
- 86 Poisoning from Aspirin. A. Borri.—Caso di avvelenamento per aspirina.
- 87 Local Treatment of Burns. M. Capurbano.—Cura locale delle scottature mercé il glicerolato tannico.
- 88 *Nuovo metodo per la ricerca dell' albuminuria delle urine. N. Introna.
- 89 La fisiologia del corpo tiroidea nell' ultimo ventennio. G. Urso.
- 90 (No. 113.) Caso di polimiosite ossificante progressiva. E. De Renzi.
- 91 Epidemia di ileo-tifo. F. Minella.
- 92 *Sulla cherato-congiuntivite bilaterale secondaria a reumatismo articolare. C. Ortale.
- 93 Sulla biologia morfologica del bac. tubercolare in mezzi inadatti al suo sviluppo (on unsuitable culture media). G. Guyot.
- 94 (No. 116.) Goiter. G. Migliacci.—Sulla patogenesi e cura del gozzo volgare.
- 95 Cura della peritonite tubercolare con le iniezioni iodiche alla Durante. N. Palombari.
- 96 (No. 119.) *Contributo allo studio delle malattie funzionali del cuore. A. Amantini.
- 97 Infezione puerperale e pseudo infezione puerperale. N. Muglia.

75. Treatment of Inguinal Laparocele.—Garampazzi treats this condition by a method of repair which he describes in full, and states that several of the patients seen years afterward show the permanently successful results of the intervention. He discusses the relations between inguinal laparocele and traumatism and the various modes of operative intervention that have been proposed. He makes a curved incision, the convex side downward, to avoid the tissues in which the sweat and sebaceous glands are most numerous, and draws the layers of the aponeurosis one on top of the other to reinforce the

wall, avoiding compressing the elements of the cord. He prepares the aponeurosis by turning back the upper lip of the wound as an ophthalmologist everts the eyelid. This produces a kind of artificial Poupart's ligament, after which he proceeds as for an ordinary Bassini. The lower flap of the aponeurosis is then sutured to the turned-over edge of the everted flap, after which the free edge is turned back into place and sutured.

76. Saline Transfusion in Influenza.—Cioffi believes that he is the first to apply this measure in influenza. He reports a case in detail in which the results were surprisingly good. The patient was a woman of 45, and when first seen the pulse was 142 and threadlike, there was great weakness, also dyspnea, progressing to actual collapse with constant vomiting and subnormal temperature for three days, notwithstanding the most energetic measures, caffeine, etc. As a last resort, the patient being almost in articulo mortis, 100 gm. of a 7 per cent. salt solution were injected subcutaneously. The benefit was apparent in half an hour, and all the symptoms rapidly improved. There was a chill and slight fever during the evening, but by the next morning the pulse was 80 and strong, temperature nearly normal, and in three days the patient was completely cured.

78: Simultaneous Ligation of Femoral Artery and Vein.—Orecchia reports a case of stab wound of the thigh in a healthy young man, in which he found it necessary, in order to control the threatening hemorrhage, to throw a ligature around both the femoral artery and vein. Gangrene developed in consequence, and notwithstanding disarticulation of the limb the patient succumbed. He reviews the cases that have been reported in the literature in which the femoral artery and vein have been ligated. Gangrene followed in 8 out of 15 (Braun), and in 14 out of 24 published by other writers, while Tillmann, Sorrentino and Pilcher have each reported a complete recovery. Orecchia experimented on 8 dogs and found that none of them showed evidences of gangrene after ligation of the femoral artery and vein supplemented in some of the animals by ligation of several other vessels in the vicinity and even by extensive venesection. Dogs are evidently much more resistant than man to such procedures, and it is possible that the vessels tolerate the procedures better in some persons than in others.

83. Operative Treatment of Varicocele.—Parona's method has been applied in 41 cases and the results have been perfectly satisfactory in all, with no further necessity for a suspensory. In mild cases, not causing pain nor other disturbance, a suspensory is all that is needed, but when symptoms demand more active treatment, the Parona method is regarded as superior to all others by Viscontini. The testicle is detached from the vaginalis; the enlarged veins are buried in the turned over vaginalis, and the latter is fastened at the outlet of the inguinal canal. The technic was worked out on animals and the remote results examined before it was tried in the clinic—all the evidence being in its favor. The patients can be dismissed in fifteen days. The details of the intervention were published in a previous communication in the *Policlinico*, VI, 1899.

88. Formaldehyd Test for Albumin in Urine.—Introna has found that formaldehyd causes the coagulation of albumin in solution and recommends a new test for albuminuria based on this fact. He adds 1 c.c. of formaldehyd to 56 c.c. of urine. If it is free from albumin the fluid remains clear, but in the presence of albumin it becomes turbid and a flocculent precipitate is gradually deposited consisting entirely of the albumin. The test can be hastened by heating to boiling point, in which case the precipitate is deposited without delay. For quantitative estimation by weight he adds 20 c.c. of formalin to 100 c.c. urine and heats for half an hour in the water bath, concluding by the technic of the Scherer test. He also asserts that formol may be substituted for the Esbach reagent in quantitative clinical diagnosis. He tabulates the results of various tests of solutions of albumin of known concentration, comparing them with the results obtained with the formalin. In every instance the exact proportion known to exist was

reproduced with the latter, while the results of boiling and adding acetic acid were always a little below the correct figure.

92. Kerato-Conjunctivitis Consecutive to Articular Rheumatism.—Ortale's patient was a healthy man of 30 who passed through a typical attack of articular rheumatism. Some of the joint symptoms have recurred in a mild form occasionally during the months since, and accompanied each time by symptoms of circumscribed kerato-conjunctivitis, which disappear with the joint symptoms.

96. Functional Heart Affections.—In the 2 cases reported in detail by Amantini the syndrome was evidently that of a cardiac neurosis in exceptionally nervous subjects. Although exclusively functional, yet the severity of the attacks is liable to induce some dangerous complication, or to entail organic disease in time, some valvular defect or myocarditis, myocardiac insufficiency or general arteriosclerosis. These possible dangers must be borne in mind by the physician and he should aim to keep the digestive tract in good condition and induce such patients to refrain from nervous strain of all kinds. Medicines to act on the heart are useless and even dangerous; the main reliance must be on the avoidance of the inciting causes of the neurosis.

Riforma Medica, Palermo.

- 98 (XIX, No. 39.) Di una streptothrix isolata dal sottosuolo. P. L. Pellegrino (Messina).
- 99 *Osservazioni cliniche, batteriologiche, ematologiche ed istologiche sul pemfigo cronico. T. Secchi and A. Serra. (Concluded.)
- 100 Le infezioni di olio iodato nella tubercolosi chirurgica. C. Mastri.
- 101 (No. 40.) Importanza della citasi (enzima cellulare), prodotta artificialmente nell'organismo, nelle infezioni sperimentali. N. Pane.
- 102 Bactericidal Properties of Rabbit Blood Postmortem. C. Cafiero.—Ricerche sulle modificazioni del potere battericida del sangue post mortem nel coniglio.
- 103 *Rapid Method of Detecting Vegetable Poisons. E. Di Mattei (Catania).—Di un metodo rapido per la ricerca dei veleni vegetali in tossicologia forense.
- 104 Sul valore disinfettante dei vapori d'alcool. P. Satta.

99. Chronic Pemphigus.—Secchi's patient was a woman with evidences of malarial cachexia, who entered the clinic on account of recurring attacks of a febrile bullous eruption with the clinical morphology of chronic pemphigus. A staphylococcus aureus was cultivated from the blood which produced merely transient fever and emaciation in a rabbit after intravenous inoculation. From one of the bullae a streptococcus and staphylococcus aureus were derived which proved fatal for a rabbit in eleven days in intravenous injection. Abscesses were found in the kidney. He explains the case as chronic pemphigus caused by a staphylococcic septicemia consecutive to malaria.

103. Rapid Method of Detecting Vegetable Poisons in Animal Tissues.—Di Mattei announced last year that it was possible to determine the nature of some poisons by the characteristic differences exhibited by the precipitates after treatment with Bouchardat's reagent. He now reports that the tissues of animals killed by ingestion of a vegetable alkaloid poison exhibit the same characteristic precipitate reaction as the pure poison alone. Consequently it will be possible to detect poisons in the viscera in forensic cases by this simple test. He cites the peculiarities of each precipitate as observed in extracts of tissues of animals poisoned with strychnin, brucin, veratrin or morphin, etc. Control tests confirmed the specific and differential value of the aspect, color, etc., of the precipitates in the case of each poison. The response to the test was as perfect in tissues from animals that had been dead for five days as in the fresh cadavers. He proceeds by digesting the specimen with alcohol for twelve hours or with water slightly acidulated with tartaric acid, then filtering and evaporating the alcohol. He then adds a little water and induces precipitation with the Bouchardat reagent, concluding by extracting the alkaloid from the precipitate with baryta water to confirm its identity. By this technic it is possible to detect and identify a vegetable alkaloid poison in the tissues in less than two days. [The Bouchardat reagent for alkaloids is a mixture of 10 parts iodine and 20 parts potassium iodide in 500 parts water.—Ed.]

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MODERN METHODS IN THE SURGERY OF PARALYSES. With Special Reference to Muscle-Grafting, Tendon-Transplantation and Arthrodesis. By A. H. Tubby, M.S. Lond., F.R.C.S. Eng., Surgeon to, and Lecturer on Clinical and Orthopedic Surgery, and in Charge of the Orthopedic Department at Westminster Hospital; and Robert Jones, F.R.C.S.E., Honorary Surgeon to the Royal Southern Hospital, Liverpool. Illustrated by 93 Figures and 58 Cases. Cloth. Pp. 311. Price, \$3.25. London: Macmillan & Co. New York: The Macmillan Company. 1903.

AN ATLAS OF HUMAN ANATOMY. For Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna. Assisted by Alois Dalla Rosa, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology. By M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. First Section. A. The Regions of the Human Body. B. Osteology. (Figures 1 to 377 and Index.) Cloth. Pp. 161. Price, \$2.50. New York: Rehnman Company. 1903.

PRACTICAL GYNECOLOGY. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynecology, Jefferson Medical College. Second Revised Edition. With 539 Illustrations, the Greater Number of Which Have Been Drawn and Engraved Especially for This Work, for the Most Part from Original Sources. Cloth. Pp. 900. Price, \$5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

THE FOUR EPOCHS OF WOMAN'S LIFE. Maidenhood, Marriage, Maternity, Menopause. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," Fellow of the New York Academy of Medicine. With an Introductory note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Cloth. Pp. 247. Price, \$1.50 net. Philadelphia, New York, London: W. A. Saunders & Co. 1903.

GRUNDRISSE DER AUGENHEILKUNDE. Von Dr. Charles H. May, Chef der Augenklinik, Med. Abteilung, Columbia Universität, New York. Autorisierte deutsche Ausgabe für deutsche Studierende und Aerzte bearbeitet von Dr. E. H. Oppenheimer, Augenarzt in Berlin. Mit 13 Farbendrucktafeln (36 Figuren) und 191 Textabbildungen. Cloth. Pp. 344. Berlin: Verlag von August Hirschwald.

DANGEROUS COMMUNICABLE DISEASES. How Spread, How Restricted and Prevented. Data and Statements Supplied to School Superintendents and Teachers, by the Michigan State Board of Health, in Compliance with Act No. 146, Laws of 1895. (Fourteenth Edition, August, 1903, 30,000; 203,000 Printed.) Paper. Lansing, Mich.: Robert Smith Printing Co.

MODERN SURGERY. General and Operative. By John Chalmers DuCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. With Over 700 Illustrations, Some in Colors. Cloth. Pp. 1099. Price, \$5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Sixth Edition, Thoroughly Revised, Enlarged and Reset. Illustrated. Flexible Leather. Pp. 556. Price, \$2.25 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, M.D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. New Third Edition, Enlarged and Thoroughly Revised. With 86 Illustrations. Cloth. Pp. 467. Price, \$2.25 net. Philadelphia and New York: Lea Brothers & Co.

A MANUAL FOR STUDENTS AND PHYSICIANS. By Henry E. Hale, A.M., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. With 71 Illustrations. Cloth. Pp. 384. Price, \$1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

MAMMALIAN ANATOMY. With Special Reference to the Cat. By Alvin Davison, Ph.D., ex-Fellow of Princeton University. With Over 100 Illustrations, Made by W. H. Reese, A.M., from the Author's Dissections. Cloth. Pp. 250. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co. 1903.

PROCEEDINGS AND ADDRESSES OF THE SIXTH GENERAL CONFERENCE OF THE HEALTH OFFICIALS IN MICHIGAN, Ann Arbor, Mich., Jan. 15 and 16, 1903. Under the Auspices of the State Board of Health. Paper. Pp. 106. Lansing, Mich.: Robert Smith Printing Co. 1903.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By George L. Richards, M.D., Fellow American Laryngological, Rhinological and Otolological Society. Cloth. Pp. 330. Price, \$2.00. Published by International Journal of Surgery Company, N. Y.

MANUAL OF MEDICINE. By Thomas Kirkpatrick Monro, M.A., M.D., Fellow of, and Examiner to, the Faculty of Physicians and Surgeons, Glasgow. Cloth. Pp. 901. Price, \$5.00. Philadelphia and New York: W. B. Saunders & Co.

PSYCHOTHERAPY in the Practice of Medicine and Surgery. By Sheldon Leavitt, M.D. Cloth. Pp. 247. Price, \$2.00. Chicago: Gardner-Taylor Press. 1903.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 200. Price, \$1.00. Philadelphia: Published by the Medical Council.

THE PUBLIC SERVICE.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department will hereafter appear near the center of the reading pages, to allow the publication of each report one week earlier. The first and last pages of THE JOURNAL go to press before those in the center.]

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Original Articles.

THE SURGICAL TREATMENT OF TRAUMATIC HEMORRHAGE OF THE SPLEEN.*

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The timely and intelligent application of the modern hemostatic resources enables the surgeon to deal successfully with external hemorrhage, but the treatment of visceral hemorrhage from the large vascular internal organs is by no means a closed chapter. Hemorrhage from wounds of the spleen, liver and kidneys is usually profuse, and is more frequently the result of injury to the parenchyma and veins than to the principal artery or its larger branches; in other words, the loss of blood is more frequently due to parenchymatous and venous than arterial hemorrhage. As a rule, the severity of traumatic hemorrhage of these organs bears a direct relation to the degree of their vascularity. The absence of muscular tissue in these organs is largely responsible for the profuseness of the hemorrhage and the difficulties encountered in attempts to arrest it. The severed vessels do not contract; their lumina remain patent, thus maintaining mechanical conditions antagonistic to spontaneous hemostasis by thrombus formation. The great abundance of capillary vessels and the delicate structure of the large veins are other anatomic features adverse to Nature's efforts in arresting the hemorrhage. The friability of the parenchyma of these organs and the thinness of their capsular investment render it difficult to apply the direct hemostatic measures so reliable in arresting hemorrhage from other organs and parts, and for these reasons can not be resorted to here with the same sense of security. Even when these organs, when the source of hemorrhage, are exposed by the accident which caused the visceral injury, or when the visceral wound has been made accessible by incision, the surgeon is often at a loss what course to pursue. As the hemorrhage is often so severe as to place in immediate jeopardy the life of the patient, the surgeon must of necessity act promptly and with decision. Hesitation becomes a source of danger under such circumstances. The spleen is one of the most vascular organs in the body. If the abdomen of an anesthetized dog is opened, the spleen exposed and the animal bled to death by cutting the femoral or common carotid artery, the organ becomes pale and loses two-thirds of its volume before the animal expires. The same reduction in

size follows section of the splenic artery. With the increase of the splenic anemia, the parenchyma becomes firmer.

Traumatic hemorrhage of the spleen must necessarily vary in accordance with the size, direction, location and character of the wound. A wound near the hilus of the organ, implicating the principal trunk of the splenic artery, would naturally give rise to a maximum amount of hemorrhage. As a rule, the larger the wound, the severer the hemorrhage. A transverse wound bleeds more profusely than a longitudinal one because it severs more large vessels, the wounds being of the same size. An incised wound bleeds more freely than a lacerated, contused or punctured wound for the same reasons as incised wounds elsewhere. A brief study of the available clinical material applicable to consideration of traumatic hemorrhage of the spleen and its surgical treatment should prove interesting, as well as profitable, at this time.

RUPTURE OF SPLEEN.

E. Berger¹ has collected 168 cases of rupture of the spleen. Deaths occurred as follows:

On the first day.....	145	86.3 per cent.
Of these, during the first hour...	87	51.8 " "
From 2 to 10 hours.....	43	25.6 " "
From 11 to 24 hours.....	15	8.9 " "
After the first day.....	23	13.7 " "
Of these on the second day.....	4	
Of these on the third day.....	6	
Of these on the fourth day.....	3	
Of these on the fifth day.....	4	
Of these on the twelfth and thirteenth day, each....	2	
Of these on the sixteenth and twenty-first day, each	1	

In those who died on the first day hemorrhage was the immediate cause of death, and in some of those who died later, so that not more than in 10 per cent. could infection be regarded as the cause of death.

GUNSHOT WOUNDS.

During the Civil War 253,142 of the Federal Army were wounded, and in only 29 of this immense number wound of the spleen is recorded. During the Franco-Prussian War, of 99,566 wounded of the German army, only 4 wounds of the spleen are mentioned.

Robinson,² in his report on 1,596 gunshot wounds in the Philippine campaign, says: "Death in consequence of gunshot wounds of the spleen was the rule. Our statistics show only one recovery."

Sir Frederick Treves refers to one case of gunshot wound of the spleen operated on by laparotomy in the South African War. The patient died on the table.

The number of spleen wounds in military statistics is small because wounds of this organ are usually associated with other grave complications, and only too often

* Presented to the Surgical Section of the Madrid International Medical Congress.

1. Archiv für klinische Chirurgie, Bd. xxviii, Heft 3.
2. Annals of Surgery, February, 1901.

particularly in incised wounds and straight tears, when a quick hemostasis is a matter of greatest importance. The broad forcipressure can be relied on in arresting the bleeding, consequently further serious loss of blood is prevented the moment the visceral wound has been made accessible. Too much stress can not be placed on the importance of making the compression slowly, as rapid compression is liable to tear the fragile tissue instead of compressing it. With two large hemostatic forceps, both wound margins are compressed simultaneously, thus controlling the hemorrhage the moment they are applied. The crushed margins should be sutured together with catgut. The slight oozing, which sometimes remains, takes place from the crushed tissues, and sometimes yields promptly to the suturing of the

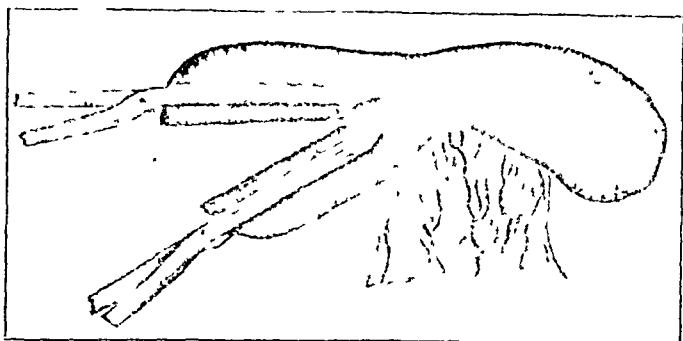


Fig. 1.—Crushing the margins of the wound in the spleen.

compressed borders. Another reason for suturing the wound is to prevent extensive and perhaps harmful adhesions between the wound margins and adjacent viscera. There is also reason to believe that approximation of the wound margins is conducive to an ideal healing of the wound, and subsequent regeneration of the tissues lost by the injury and the operative intervention. As crushed tissue is more liable to infection than vascular tissue, permanent suture material should be avoided.

In discussing the general subject of hemostasis of splenic wounds, it is apparent that no one exclusive

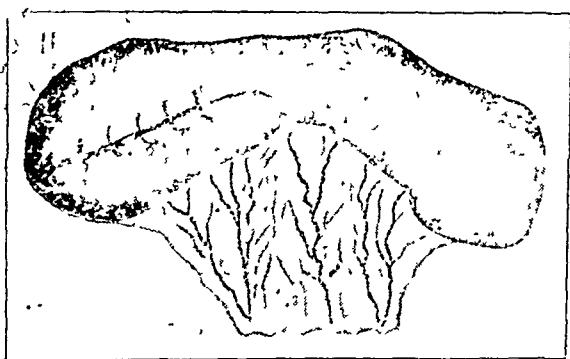


Fig. 2.—The wound sutured.

method of treatment can be relied on. The treatment to be employed must necessarily depend on the location, size and character of the wound, and the condition of the wounded organ. The one great rule that should not be lost sight of, and one which should apply to all kinds of surgical work, is, not to sacrifice any more healthy tissue than is absolutely necessary to meet the indications presented by each individual case. Conservative surgery should take the place here, as elsewhere, of mutilating surgery. The fact that the spleen can be removed in animals without any serious consequences following does not warrant the conclusion that this organ can be sacrificed with immunity. It is

true that the spleen has been removed in the human subject for various indications without any apparent ill effect, but cases may occur in which other organs may fail to assume compensatory action. The retroperitoneal hemolymph glands in the renal and other regions might refuse to respond to the need of an additional blood-producing organ. The removal of a wounded healthy spleen is an easy operation, and can always be relied on in arresting the hemorrhage, but these reasons alone would not warrant the removal of the organ if the hemorrhage can be arrested by conservative measures.

The surgical treatment of traumatic hemorrhage of the spleen naturally divides itself into: 1, Splenectomy; 2, partial splenectomy; 3, splenorraphy; 4, aseptic tamponade; 5, cauterization; 6, marginal crushing and suturing.

1. *Splenectomy*.—Splenectomy is the operation of necessity in the treatment of traumatic hemorrhage of the spleen, if the organ itself is diseased or in case the wound implicates the main trunk of the splenic artery. If the spleen is enlarged and softened, as is the case after acute infectious diseases, or, in consequence of chronic malarial intoxication, wounds cause very obstinate bleeding, which, owing to the textural changes which have taken place, resists all attempts at hemostasis short of splenectomy. In such an event, no time should be lost in the employment of conservative measures, and the diseased wounded organ should be promptly removed. The same treatment is to be pursued if the wound involves the hilus of the spleen and its principal artery.

2. *Partial Splenectomy*.—If the lower part of the spleen has been extensively crushed or lacerated, or if a transverse wound has divided two-thirds of the diameter of the organ, removal of the injured or partially detached part of the spleen is indicated. The amputation should be done by the use of the crushing forceps, and after excision the crushed tissue should be covered with omentum, which is sutured over it with catgut sutures. Suturing of the omentum over the stump is an additional means of hemostasis, and prevents harmful visceral adhesions.

3. *Splenorrhaphy*.—Suturing as a hemostatic has had a fairly good record, and will be resorted to in appropriate cases. The mattress suture or shoemaker's stitch is best adapted for this purpose. A round needle armed with catgut is to be used for this purpose. Bleeding from the punctures is reduced to a minimum by using the double catgut suture, so as to tampon the tract made by the needle with the suture material, which soon swells by the absorption of moisture. After the hemorrhage has been arrested in this manner, the cut surfaces are sutured together with a few separate catgut stitches. In bullet wounds, a circle of through-and-through mattress sutures will usually succeed in arresting the bleeding. The bullet wound itself in such cases should always be drained with aseptic gauze. If suturing is decided on, further loss of blood should be prevented by digital compression of the injured part of the spleen until the suturing is completed.

4. *Aseptic Tamponade*.—The aseptic tampon is often relied on by the surgeon in the management of troublesome parenchymatous hemorrhage that can not be controlled by more direct means, or when the source of hemorrhage is not accessible to more reliable hemostatic resources. In the case of wounds of the spleen,

this method of arresting the hemorrhage meets with a decided disadvantage in the absence of an adequate resistance to pressure. Notwithstanding the unfavorable mechanical conditions for effective tamponade, this hemostatic agent has given satisfactory results in many cases of traumatic hemorrhage of the spleen, in which it was relied on in arresting the bleeding. It will prove of value if the hemorrhage is venous or parenchymatous, but should never be relied on in bleeding from arteries of any considerable size, that is, in the treatment of arterial hemorrhage. The typical Mikulicz tampon is the one to be employed, as in this case the tampon can be removed with ease, and there is no danger of leaving a part of the tampon in the wound. The tampon also serves the useful purpose of a drain, and should be allowed to remain as long as it is deemed necessary to continue drainage. The size of the tampon can be diminished at any time it is considered safe to do so.

5. *Cauterization.*—The use of the actual cautery in the treatment of traumatic hemorrhage of the spleen has an exceedingly limited sphere of usefulness, if any. It is not reliable, and may inflict serious damage on important adjacent structures. The eschar which it produces interferes seriously with an ideal healing of the visceral wound. For these and other reasons it seems to me that the actual cautery should be resorted to only in exceptional cases as a hemostatic in the treatment of wounds of the spleen.

6. *Marginal Crushing of the Wound and Suturing.*—The most reliable procedure in arresting traumatic hemorrhage of the spleen in all cases in which the wounded organ can be saved is marginal crushing, followed by suturing the crushed margins with catgut. The hemorrhage is arrested the moment the forceps are applied, and the blood vessels in the crushed tissues are speedily obliterated by thrombosis, thus guarding against recurrence of the bleeding, and by uniting the crushed wound margins by suturing with catgut the visceral wound is placed in the most favorable condition for speedy healing and regeneration of the tissues lost by the injury and the operative treatment of the wound.

EXPERIMENTS WITH RENNET AND ANTIRENENE.*

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In 1899 Morgenroth published a paper entitled "The Antibody of Rennet," containing a description of certain work that he had done in support of Ehrlich's chemical theory of the toxin-antitoxin reaction. So far as I know, Morgenroth's work met with universal acceptance without having been subjected to experimental confirmation, nor did I think it worth while to confirm it or make any addition to what Morgenroth had found until the specific precipitates began to attract attention, when their study led me to experiment with antipeptone, antivenene and antirenene.

The antirenene was prepared solely for the purpose of securing the precipitate, but as I found it possessed the power of inhibiting the coagulant action of rennet on milk, I continued to investigate the subject until I found in it a confirmation of what Morgenroth had done, and found myself able to make a few additional contributions to the subject.

Morgenroth's experiments were performed on goats, which were injected with rennet prepared by Witte in Rostock, the activity of this rennet being 1-3,000,000. The sterility of the rennet solution was secured by the addition of iodine (1 c.c. of a 1-10 iodine solution to each 10 c.c. of the rennet solution permitted to stand 1 hour at room temperature), and no abscesses followed its employment. The goat was given increasing doses of the rennet solution administered by subcutaneous injection until 6.5 grams at a dose were administered. After each injection the temperature rose to about 41.4 C., without any disturbance of the general condition or appetite, and without any observable diminution of the body weight. Of the two goats thus treated, one produced a considerable quantity of the antibody, the other attained an extremely small degree of immunity, although both were subjected to exactly the same treatment.

The observation of Schepilewski, that an injection of sterile rennet produced amyloid disease, was not confirmed, as both of the goats remained healthy for more than a year after the close of the experiment.

Morgenroth's studies of the antirenene were made with the blood serum and milk of the goats. The standard rennet solution for testing the antibody consisted of a watery extract of the rennet powder in a 10 per cent. sodium chlorid solution, to which was subsequently added an equal quantity of glycerin and 10 per cent. sodium salt solution. It was found that such a solution contained 2 per cent. of the rennet powder, and could be kept for more than a year and a half unaltered. The presence of the antibody in the serum was tested on cow's milk saturated with chloroform by a long continued shaking in a shaking apparatus and then preserved in the cold.

The method for testing adopted by Morgenroth was as follows: His rennet had the power of coagulating milk in a proportion of 1 part in 3,000,000, but when the milk received an addition of 2 c.c. of the serum of an immunized goat, a proportion of rennet equal to 1-30,000 failed to produce coagulation, though a proportion of 1-25,000 produced a firm clot, so that the serum had the power to neutralize 100 times the coagulating rennet dose, and to thicken the milk 200 times the usual dose was required.

The serum from the other goat that did not attain a high degree of antirenene was so much less active that 2 c.c. inhibited in a proportion of 1-120,000 only. The antibody was extremely unstable, and when preserved with chloroform and kept in an ice chest, its activity disappeared in a few months.

My own experiments were conducted on a different plan and with different animals. Rabbits were chosen for the experiment, and at weekly intervals were given intraperitoneal injections of considerable quantities of the standard rennet solution. The rennet employed is a granular, dry powder of a yellow-cream color, freely soluble in water and physiologic salt solution. My standard solution consisted of a 5 per cent. solution in physiologic salt solution, saturated with chloretone. This preparation was found to be so stable that its strength did not alter on keeping for several months, and it was so active that 1/2,500 of a c.c. produced a firm coagulum in standardized milk in between one and two hours. The strength was, therefore, equivalent to 1-500,000. Each injection of 5 c.c. given to the rabbit contained 0.25 of a gram of the pure rennet.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wyman and W. S. Hall.

The rabbits on which my experiments were made weighed in the neighborhood of 1.5 kilograms each. Morgenroth does not give the weight of his goats, and I am not sufficiently familiar with goats to know exactly what they weigh, but presume an average goat would weigh about 50 kilograms. This being the case, the goats weighed approximately thirty times as much as the rabbits, and basing the calculation on body weight would presumably endure about thirty times as much rennet. My experiments were conducted without any knowledge as to the quantity of rennet administered by Morgenroth to his goats. On subsequently looking it up I found that the largest quantity they received was 6.5 grams. Since the rabbits received 0.25 of a gram at a dose, the goats on the same ratio should have received about 8 grams. This would suggest that the rabbits should have attained a higher degree of immunity and produced a stronger antibody than the goats, supposing their ability to produce the antibody about equal. We find, however, that the rennet with which Morgenroth performed his experiments had a strength of 1-3,000,000, or six times that of my rennet. It is thus evident that in proportion to their weight, my rabbits did not receive nearly as much rennet as Morgenroth's goats, and it is not surprising that I found the anticoagulant powers of their serum considerably less. This is, however, by no means a necessary inference, as Morgenroth showed that of his goats, one produced a serum whose anticoagulant power was 1-25,000, while the other was only 1-120,000, thus confirming what is a familiar observation to every one who has experimented with antibodies, viz., that different animals treated in the same way attain very different degrees of immunity, and very different kinds of antibodies in the blood.

Three rabbits were employed for the experiment. The first died after a single injection. At the necropsy I found an extensive serofibrinous inflammation of the pericardium, pleura and peritoneum, and with more or less pneumonia. The exudates contained several different bacteria. The second animal endured about five injections and then died with identical lesions. In the exudates and blood several different bacteria were found. Both the animals seemed to die early in the night, and when bacterioscopic examination showed that several bacteria were present in the exudates, it was not thought worth while to endeavor to isolate the one responsible for the infection. It is interesting to notice, however, that fibrinous exudates occurred in both these animals.

The third rabbit survived a number of injections of 0.25 of a gram of the rennet and was finally bled to death, the serum being carefully separated for study, and extracts of the different organs of the body made in order to determine whether either rennet or antirennene might be contained in the tissues. For this purpose extracts were made of the medulla oblongata, kidney, liver, pancreas, adrenal, bone marrow, lung, voluntary muscle, stomach, large intestine and small intestine. These extracts were prepared by adding to each fragment of tissue ten times its weight of physiologic salt solution (a gram was considered equivalent to 1 c.c. of salt solution). The organs were finely crushed in a mortar, being reduced to a pulp before the salt solution was added. The mixture was then placed in a test tube and kept in the cold over night. The rabbit, therefore, furnished blood serum, organic extracts and urine for further study.

In order that the investigations might be accurate, it was necessary to standardize the milk, and for this

purpose chloroform and formaldehyd were first tried. The chloroform was found to be less reliable than was hoped, and the formaldehyd was found to diminish the coagulability of the milk. I, therefore, tried chloreton and found that by saturating the milk with this I was perfectly able to protect it against subsequent micro-organismal contaminations, without in any way inhibiting its coagulating power.

As the layer of cream which soon rises and covers the surface of milk kept at the temperature of the body interferes with determining whether the milk has thickened from the presence of the rennet, I found it expedient to use "separator milk" from which the cream was removed. The reaction of the milk affects the action of the rennet; acid milk coagulated much more completely than neutral or alkaline milk. By securing milk fresh from the dairy and immediately saturating it with chloreton, I was able to secure a sufficiently accurate standard, as there was very little variation in the reaction of fresh separator milks, and the saturation with chloreton prevented the development of acidity by bacterial action. The reaction of the milks employed was acid, the acidity varying from 16 to 18 c.c. of normal caustic soda solution being required to neutralize one liter. The difference was so slight that though we tested it carefully it did not in any way seem to modify the action of the rennet, and it is thought not worth while to correct it.

It is well known that the temperature affects the action of rennet, which is much more energetic at high than at low temperatures. Morgenroth preferred to afford his rennet twenty-four hours in which to effect coagulation, keeping the milk in the meantime on ice. Inasmuch as we had eliminated the possibility of any bacterial change in the milk, we were able to keep it at the temperature of incubation, and found that 0.000002 of a gram of rennet added to 10 c.c. of milk invariably produced a firm clot in between one and two hours. We, therefore, adopted the temperature of 37° C. as a standard for the experiments.

In studying the action of the antibody we, therefore, had the following standard conditions:

1. A solution of rennet of which 0.000002 of a gram invariably coagulated 10 c.c. of milk kept at 37° C. in between one and two hours.

2. Milk of a reaction necessary for the appropriate action of the rennet and perfectly preserved from bacterial contamination or alteration either from the production of enzymes or the formation of acids, by saturation with chloreton. (Of this milk, 10 c.c. were used for each test).

The first series was an endeavor to determine whether the rennet injected into the animal was stored up in any of its tissues, and for this purpose 2 c.c. of each of the tissue extracts prepared was added to 10 c.c. of milk and incubated the appropriate length of time. This experiment we made as soon as the extract was prepared.

TABLE 1.—THE FOLLOWING MIXTURES WERE PERMITTED TO STAND FOR 12 HOURS:

10 c.c. Milk + 1 c.c. Extract of	Kidney (freshly prepared) ..	=0
" " + " "	" Liver	=0
" " + " "	" Pancreas	=0
" " + " "	" Adrenal	=0
" " + " "	" Bone marrow	=0
" " + " "	" Lung	=0
" " + " "	" Voluntary muscle	=0
" " + " "	" Brain	=0
" " + " "	" Blood serum	=0
" " + " "	" Urine	=0
" " + " "	" Large intestine	=+
" " + " "	" Small intestine	=+
" " + " "	" Stomach	=+

The coagulation produced by the extracts of stomach and small intestine probably depends on

the presence of rennet naturally formed in the stomach. No rennet existed in any of the other extracts, in the blood serum or in the urine. A similar series was made after permitting the sodium chlorid solution to act on the crushed organs for about 20 hours.

TABLE 2.

10 c.c. Milk + 1 c.c. Extract of	Kidney*	
" " " "	" Liver	=0
" " " "	" Pancreas	=0
" " " "	" Adrenal	=0
" " " "	" Bone marrow	=0
" " " "	" Lung	=0
" " " "	" Voluntary muscle	=0
" " " "	" Brain	=0
" " " "	" Blood serum	=0
" " " "	" Urine	=0
" " " "	" Large intestine	=0
" " " "	" Small intestine	=0
" " " "	" Stomach	=0

* After 24 hours' maceration.

The next experiments were made for the purpose of determining whether any of the organic extracts contained important quantities of antirenene, and were made with extracts which had been allowed to stand in the cold for about twenty hours.

TABLE 3.—THE FOLLOWING WERE PERMITTED TO STAND FOR 3 HOURS:

10 c.c. Milk + 1 c.c. 20-hour Extract of:	
Kidney + rennet 0.00002 gr.	=+
Liver + rennet 0.00002 gr.	=+
Pancreas + rennet 0.00002 gr.	=+
Adrenal + rennet 0.00002 gr.	=+
Bone marrow + 0.00002 gr.	=+
Lung + rennet 0.00002 gr.	=+
Voluntary muscle + rennet 0.00002 gr.	=+
Brain + rennet 0.00002 gr.	=+
Large intestine + rennet 0.00002 gr.	=+
Small intestine + rennet 0.00002 gr.	=+
Stomach + rennet 0.00002 gr.	=+

Although these experiments were crudely made, they seemed to indicate the absence of important quantities of antirenene in the tissues of the rabbit's body. It might be well to remark that the softest coagulum in the series was that in the tube to which the bone marrow had been added.

The next experiments were made to determine the ability of the blood serum to inhibit the action of the rennet. I find that my method of experimentation differs markedly from that of Morgenroth. Morgenroth used a measured quantity of milk containing an equal proportion of serum and added varying quantities of the rennet. I preferred to experiment by a method more nearly resembling that by which the antitoxic unit is determined in the estimation of the value of antidiphtheritic and antitetanic serums. I, therefore, employed 10 c.c. of milk to which was added exactly the quantity of rennet known to effect its coagulation, and then varying quantities of serum, until I determined the least quantity that would inhibit coagulation.

TABLE 4.—DURATION OF THE EXPERIMENT 3 HOURS. TEMPERATURE 37 C.

10 c.c. Milk + 0.00002 gr. rennet + serum	1 c.c.	
" " " "	0.7 c.c.	=0
" " " "	0.6 c.c.	=0
" " " "	0.5 c.c.	=0
" " " "	0.4 c.c.	=0
" " " "	0.3 c.c.	=0†
" " " "	0.2 c.c.	=+
" " " "	0.1 c.c.	=+
" " " "	0.09 c.c.	=+
" " " "	0.08 c.c.	=+
" " " "	0.07 c.c.	=+
" " " "	0.06 c.c.	=+
" " " "	0.05 c.c.	=+
" " " "	0.04 c.c.	=+
" " " "	0.03 c.c.	=+
" " " "	0.02 c.c.	=+
" " " "	0.01 c.c.	=+
" " " "	0.001 c.c.	=+
" " " "	0.0005 c.c.	=+
Control 10 c.c. milk + 0.00002 gr. rennet + serum		=0

* Soft clot. † Very soft clot.

In this way I showed that the serum effected a distinct inhibition of coagulation, causing the rennet to become inactive in tubes containing 0.5 c.c., or more, of the serum.

The next series of experiments had to do with the specific precipitate, which I expected to find much more delicate, as a means of determining the presence of the antibody rather than the interference with coagulation. Dilutions of the serum and rennet in which the proportions were known, were prepared, placed in small test tubes and kept at the standard temperature. The result was not delicate, as I had anticipated, as is shown by the following table. The quantities of rennet and serum were each diluted with several cubic centimeters of physiologic salt solution, poured together, well shaken, placed in a narrow test tube, and incubated for twenty-four hours:

TABLE 5.

0.00002 gr. rennet +	0.4 c.c. serum	
" " " "	+ 0.3 c.c. serum	=+
" " " "	+ 0.2 c.c. serum	=+
" " " "	+ 0.1 c.c. serum	=+ (?)
" " " "	+ 0.01 c.c. serum	=0
" " " "	+ 0.005 c.c. serum	=0
" " " "	+ 0.0033 c.c. serum	=0
" " " "	+ 0.0025 c.c. serum	=0
" " " "	+ 0.002 c.c. serum	=0
" " " "	+ 0.001666 c.c. serum	=0
" " " "	+ 0.00142 c.c. serum	=0
" " " "	+ 0.00125 c.c. serum	=0
" " " "	+ 0.0011 c.c. serum	=0
" " " "	+ 0.001 c.c. serum	=0

The large quantity of serum required to inhibit the action of the rennet perplexed me, as it seemed not to be in keeping with what was known about other antibodies. It, therefore, occurred to me that the action of the rennet on the milk might take place too rapidly to afford anything but an overwhelming quantity of the serum an opportunity to inhibit it, and that if I would make mixtures of rennet and the antibody in varying proportions and permit them to stand at the temperature adopted for the standard for a number of hours, the rennet might be destroyed by the antibody in very much smaller quantities than was necessary when both were immediately added to the milk. I, therefore, prepared a number of such mixtures and a correspondingly great dilution of rennet, permitted them to stand overnight in the incubator and then added the appropriate quantities to the milk. The result showed that under these conditions the action of the antibody on the rennet was very energetic and entirely confirmed by expectations. Instead of requiring 0.5 c.c. to inhibit coagulation, I now found 0.0005 c.c. to be sufficient, this being the least quantity investigated.

TABLE 6.—TIME, 3 HOURS. TEMPERATURE, 37 C. CONTROL 10 C.C. MILK + (0.00002 GR. RENNET INCUBATED 24 HOURS) =+.

10 c.c. milk + (0.00002 gr. rennet +	0.4 c.c. serum)	
" " " "	+ 0.3 c.c. serum	=0
" " " "	+ 0.2 c.c. serum	=0
" " " "	+ 0.1 c.c. serum	=0
" " " "	+ 0.01 c.c. serum	=0
" " " "	+ 0.005 c.c. serum	=0
" " " "	+ 0.0033 c.c. serum	=0
" " " "	+ 0.0025 c.c. serum	=0
" " " "	+ 0.002 c.c. serum	=0
" " " "	+ 0.00175 c.c. serum	=0
" " " "	+ 0.001425 c.c. serum	=0
" " " "	+ 0.001225 c.c. serum	=0
" " " "	+ 0.00111 c.c. serum	=0
" " " "	+ 0.001 c.c. serum	=0
" " " "	+ 0.0005 c.c. serum	=0

I was very anxious to determine how much less than this quantity would inhibit the coagulating power of the rennet. But at this point my experiments were interrupted by pressure of other work and the matter was dropped for several weeks. When I was able to return to it again, I found that what Morgenroth had discovered regarding the instability of the antirenene was correct, and that my serum had entirely lost its power, either when added to the milk or when added to the rennet, to interfere with coagulation.

SUMMARY.

The experiments confirm Morgenroth's discovery that the repeated introduction of rennet is followed by the formation of an antibody inhibiting its action. They show that properly prepared mixtures of rennet and antirenene give a specific precipitate, and show, I think for the first time, that the action of the antirenene is infinitely more active when the two are mixed and allowed to stand for some time before being added to the milk than when immediately added to the milk.

This is in thorough keeping with what was observed by Martin and Cherry regarding the interaction of venom and antivenene. I am also able to confirm Morgenroth's observation of the instability of the antibody.

DISCUSSION.

DR. JOSEPH MCFARLAND, Philadelphia—After the use of the chloretone in the milk I found that I was able to keep the milk as long as I liked. Owing to the negligence of the attendant in not cleaning up the bottles on the stand in my laboratory some of them stood for eight weeks without contamination. The milk simply dried up. I have found chloretone one of the best reagents for the preservation of serums, milks, urines and organic extracts from bacterial contamination. Bacteria will not grow in any of these when the chloretone has been added and there is no injurious chemical action.

DR. L. HEKTOEN, Chicago—I would like to inquire whether the rabbit serum has any coagulative power.

DR. J. W. FOSS, Phoenix, Ariz.—Will anything short of a saturated solution of chloretone act as a preservative?

DR. JOSEPH MCFARLAND, Philadelphia—Replying to the first question, normal horse serum contains a body that slightly inhibits the coagulative power of rennin, but rabbit serum does not.

As to the chloretone, I always use the saturated solution because that is the easiest to prepare.

THE PROTOPLASMIC ACTIVITY OF THE RENAL EPITHELIUM,

AS DETERMINED BY THE ELIMINATION OF PIGMENTS INJECTED INTO THE CIRCULATION.*

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INTRODUCTION.

The question of the functional activity of the renal epithelium is ever one of deep interest, both to the physiologist and to the pathologist.

It will be remembered that Bowman's theory concerning the separation of the urine by the kidney was originally founded on anatomic findings entirely and not on experimental evidence. According to this view, the glomeruli separate the watery portion of the urine and the freely diffusible substances, while the specific ingredients of the urine, viz., the urea, uric acid, etc., are secreted by the cells of the uriniferous tubules.

Bowman's theory was replaced for a time by that of Ludwig when the latter investigator and his school showed the close relationship which exists between the circulation of blood in the kidney and the amount of urine separated. This theory held that the separation of urine by the kidney is purely a physical process, the blood-pressure in the glomerular capillaries causing all the ingredients of the urine to filter through into Bowman's capsule in very dilute solution. During the passage of this dilute solution down the uriniferous tubules

the water was supposed to diffuse back from the urine into the lymph, so that the urine becomes more concentrated as it enters the pelvis of the kidney.

Further investigation of the subject soon showed that alterations in the general arterial blood-pressure do not always cause corresponding changes in the amount of urine formed, while the latter may be influenced by conditions which do not affect the former. These facts called the first part of Ludwig's theory seriously into question. The latter part, pertaining to the diffusion of water from the uriniferous tubules into the lymph, was demonstrated to be impossible, as the urine has a greater osmotic pressure than the lymph, and if any diffusion takes place, the water would pass in the opposite direction to that contended by Ludwig.

Heidenhain then put forward a theory which is in part a revival of Bowman's hypothesis in that the specific ingredients of the urine are held to be secreted by the protoplasmic activity of the cells lining the uriniferous tubules. Heidenhain went still further and held that the water and freely diffusible constituents of the urine are secreted by the flat epithelium covering the glomeruli and that these are not merely filtered by a physical process alone, although the influence of changes in the general or local circulation on the flow of urine is fully recognized.

Both of these theories have been modified from time to time, and while there may be minor differences, there are two main views held at the present time as to the functional activity of the kidney:

(1) *The Filtration-Absorption Theory or Modified Ludwig's Theory.*—This holds that all the ingredients of the urine in very dilute solution are filtered through the capillary wall and the epithelium covering the glomerulus, and that the water and chlorids are absorbed by the cells lining the uriniferous tubules, while the urea, uric acid, phosphates, sulphates, etc., pass on to the pelvis of the kidney in more concentrated solution.

According to this view, the epithelium of the uriniferous tubules is not excretive, but is only concerned in absorption. These cells are supposed to have a selective power in absorbing certain ingredients like the chlorids, while other diffusible substances like urea pass on. If this theory be correct, Heidenhain calculated that fully 70 kilos of water must filter through the glomeruli daily.

(2) *The Excretory, Vital, or Bowman-Heidenhain Theory.*—It is contended by those who hold to the other explanation of the function of the kidney that only the water and inorganic salts are separated by the glomeruli. The glomerular epithelium is supposed to be permeable to certain substances and not to others, so that the fluid which collects in the capsule of Bowman contains the inorganic salts in the relative proportion in which they occur in the urine. The cells lining the tubules, and especially those of the contorted tubules, are held to separate the specific ingredients of the urine by an excretory action, i. e., by a protoplasmic activity similar to the secretory activity of other glands.

The main point at issue between these diverse views is whether the renal epithelium is absorptive like that lining the intestine, or excretory in function. If the former is correct, then water and salts are absorbed from the urine into the lymph; if the latter is correct, then the metabolites and possibly some of the salts of the urine are separated by protoplasmic activity from the lymph into the urine as it passes down the tubules.

In trying to determine which of these theories is correct most of the work in recent years has been carried

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

on by studying the molecular concentration of the urine under different conditions and comparing it with that of the blood. Much has also been done in studying the action and elimination of different salts.

Unfortunately, there is no ingredient of the urine which can be traced through the renal epithelium by microchemical methods. Bowman¹ and Von Wittich² described the presence of uric acid crystals in the epithelial cells lining the uriniferous tubules of birds, but it has since been contended by Schmidt³ that these observations are incorrect, and that uric acid crystals only occur within the lumen of the tubule and on, but not within, the protoplasm.

Heidenhain⁴ made use of a soluble stain which can be injected into the circulation without any harm and can be precipitated in the kidney by perfusing it with absolute alcohol. Sodium sulphindigotate (indigo carmine), when injected into the circulation, appears in the urine in from 2 to 3 minutes. Heidenhain found that if the kidney be quickly excised 5 minutes after the injection of the stain and perfused with absolute alcohol, the pigment is precipitated chiefly in the medulla of the kidney. When the spinal cord was cut prior to the injection so as to lower the blood-pressure and thereby stop the flow of urine, he found the pigment chiefly in the cortex and on microscopic examination found the precipitated pigment granules principally within the lumen of the convoluted tubules, and to a less extent in the epithelial cells lining them.

Heidenhain concluded from these experiments that this pigment is eliminated by an excretory activity of the cells lining the convoluted tubules. While it does not necessarily follow from this that urea is excreted in the same way, nevertheless, this would seem highly probable from the large proportion of this metabolite in the urine if such excretory activity can once be positively established.

Other experimenters have not always obtained the same results from injecting indigo carmine that Heidenhain did. The results obtained with this dye are extremely variable, but admitting that they are uniform, quite a different interpretation has been placed on them. The pigment precipitated in the kidney has been found to occur chiefly in the lumen of the uriniferous tubule and in that part of the renal epithelium which immediately borders on the lumen. It does not occur in such abundance in these cells toward the basement membrane. It is contended by some⁵ that the presence of these granules in this part of the cell might be due to absorption from the urine within the tubule as readily as to excretion from the lymph into the urine. This view is rendered more plausible by the fact that by varying the conditions of the experiments the glomerulus is often found to be stained.

PLAN OF EXPERIMENTATION.

The experiments presented in this paper were undertaken with the idea of attempting to clear up this point, viz., whether the protoplasmic activity of the renal epithelium is concerned in absorption or in excretion in the elimination of pigments injected into the systemic circulation.

Different methods were used to stop the free flow of urine with the idea of diminishing the amount of water separated by the glomeruli without interfering with

the protoplasmic activity of the epithelium lining the tubules. In one experiment the spinal cord was cut so as to lower the blood-pressure and thereby stop the flow of urine. In two others advantage was taken of the anuria from surgical shock. It is a matter of common experience in performing experiments on the kidney that often the urine does not flow for a considerable time after a kidney or ureter has been exposed, and at times it is necessary to inject a diuretic or physiologic salt solution to establish the flow. As the amount of pigmentation of the kidneys varies in different animals considerably, even when the conditions of experimentation are identical, it is obviously desirable to stop the flow from one kidney without interfering with its circulation, while the other one continues to act normally. This is far preferable to the method of stopping the flow in both kidneys, as it allows comparison in the same animal.

In three experiments one renal artery was compressed between the fingers for one-half to one minute at a time and repeated if necessary. This usually causes a temporary cessation in the flow of urine without interfering with the blood supply, as no injury is done to the artery. Unfortunately, when fluids are subsequently injected the flow of urine sometimes starts again, but is never as great as on the normal side.

In eight experiments the ureter of one side was connected with a mercury manometer by means of a cannula and the urine allowed to flow until the mercury in the manometer ceased to rise. It requires a pressure of 30-40 mm. Hg. to stop the flow of urine. In this way the ureter and pelvis are distended and the outflow from the uriniferous tubules is thus obstructed and comes to a standstill. Normally the pressure in the ureter necessary to stop the flow of urine does not exceed 40 mm. Hg., but under the influence of diuretics it may go as high as 60 or 70 mm. of Hg.

Several of my experiments were performed before the publication of Cushny's paper⁶ on the elimination of salts by the kidney when the ureter is obstructed, and until then my attention had not been called to the interference with the renal circulation by obstructing the ureter. Lindemann⁷ showed that a pressure of 100 to 200 mm. of Hg. in the ureter causes the kidney to swell up and interfere seriously with the renal circulation, as the outflow of blood from the renal vein is greatly diminished, but if this pressure does not exceed 50 mm. Hg. the venous outflow is not reduced by 10 per cent. In my later experiments a T cannula was tied in the obstructed ureter after a method devised by Cushny, so that one arm could be connected with a manometer, while a short piece of rubber tubing on the other arm, with a screw pinch cock, allowed the urine secreted under pressure to escape and in this way the pressure was kept uniformly between 35 and 40 mm. of mercury.

An effort was made to see if the protoplasmic activity of the renal epithelium could be lessened by atropin. It is supposed by some that this alkaloid checks the renal activity in the same way that it does that of most other glands. Careful urea determinations were made of the urine collected from the ureters for five-minute periods before and after the administration of atropin in three experiments, but there was no diminution in the quantity of urine or of urea, although the flow of saliva was completely stopped and could not be excited in any way.

1. Bowman: Phil. Trans., London, 1842.

2. Von Wittich: Arch. f. mik. Anat., 1875, Bd. xi.

3. Schmidt: Arch. f. d. Ges. Physiologie, 1890, Bd. xlviii.

4. Heidenhain: Hermann's Handbuch d. Physiologie, vol. v.

5. Starling: Schäfer's Text-book of Physiology, vol. I.

6. Cushny: Brit. Journ. of Phys., vol. xxviii, No. 6.

7. Lindemann: Beiträge z. path. Anat. und Phys., xxi, p. 500, 1897.

Pilocarpin also fails to increase the amount of urine or of urea.

SELECTION OF A SUITABLE PIGMENT.

Experiments with sodium sulphindigotate (indigo carmine) are so extremely variable that satisfactory results were never obtained, although it has been tried in nine experiments not included in this paper. Care was taken to repeat exactly the conditions as described by Heidenhain, but the trouble seems to lie in the composition of the pigment and the change which it undergoes under the influence of the living tissues. The living cells appear to reduce it to a colorless substance. This change is so great that even though the kidney is colored blue when it is first cut out and perfused with absolute alcohol, it soon loses color, and sections mounted from it show no color granules. The pigment was the purest obtainable from different sources, but the results were always the same, even though large amounts were injected (5 c.c. to 7.5 c.c. of saturated solution per kilo of body weight).

Starling⁵ recommends the use of carmine dissolved in a weak solution of sodium hydroxid. Carmine has the advantage of being more complex in its composition and less diffusible, so that it can be traced through the tissues more readily. It is also very much more stable; is not reduced by the tissues, and can be more completely precipitated by absolute alcohol than can indigo carmine.

The only disadvantages of carmine are its comparative insolubility and the effect of the sodium on the circulation. A saturated solution in weak NaOH solution rarely contains more than 1 per cent. of carmine, and may contain much less if made hastily. When such a solution is rapidly injected directly into the vein it causes the heart to beat slowly and a fall of pressure ensues. This can be obviated by making the injection slowly, and with this precaution from 5 c.c. to 7 c.c. of a saturated solution of carmine in 0.1 per cent. NaOH may be injected for each kilo of body weight. It is very essential that the solution be freshly prepared, as it decomposes very readily.

To avoid the effect on the heart of any free alkali, commercial sodium carminate was tried, but proved less satisfactory than a fresh solution of carmine. The tissues were not so deeply stained and the stain was more diffuse and not so completely precipitated by absolute alcohol.

Sometimes when carmine has been injected into the circulation the urine and kidneys remain remarkably free from the pigment, although the other tissues are stained and the blood-pressure has remained normal throughout. This caused us to try other materials which can be used for the microchemical examination of tissues.

As large amounts of potassium ferrocyanid can be injected directly into the circulation without any injurious effect, this salt was used, and after it had appeared in the urine the kidneys were excised and perfused with a weak solution of ferric chlorid containing a little free HCl. The entire organ turned blue after a time, but sections showed a diffuse stain in some places, with deeply stained material in the lumen of the straight tubules. The results were less satisfactory than those obtained with carmine.

The injection of a soluble salt of iron (citrate of iron and ammonium) was next undertaken, and after the iron had been found in the urine for some time the animal was killed. One kidney was then perfused with a weak solution of ammonium sulphid, and the other

was cut into very thin pieces and placed in a weak solution of potassium ferrocyanid acidulated with HCl. The kidneys showed marked precipitates of black in the one kidney and blue in the other, but microscopic sections of the organs were not as satisfactory as those made from experiments in which carmine was used.

Recently a freshly prepared liquor carmini (U. S. P.) has been used. This is a 6.5 per cent. solution of ammonium carminate from which all free ammonia has been driven off by gentle heat or gaseous diffusion. It has the advantage that it contains much more carmine than is possible to get in solution otherwise, and does not lower the blood pressure if injected slowly. It has the disadvantage over a solution of sodium carminate that it increases the flow of urine, probably in the same way that saline diuretics do, as it contains 35 per cent. of glycerin. This also causes a more diffuse staining of the glomeruli than is seen after the injection of the other pigments, although two parts of physiologic salt solution were added to the liquor carmini for injection. At first 5 c.c. or 6 c.c. of liquor carmini per kilo of body weight were injected, but this causes such diffuse pigmentation that 4 c.c. per kilo is a better proportion. Less than this does not give such good results.

In the experiments with carmine and indigo carmine the kidneys were perfused with absolute alcohol through cannulae tied in the renal arteries. At first this was done with a syringe, but it was found much better to make the injections by gravity, using a separating funnel at a height of about six feet and allowing the absolute alcohol to perfuse for an hour, the kidney being covered with alcohol. The alcohol flowed freely from the renal vein and some escaped from the ureter. The organ was then cut open and thin pieces were placed in a large excess of absolute alcohol. These were then imbedded in paraffin and mounted unstained, so that none of the pigment could diffuse out.

When comparisons were made between the two kidneys the cannulae of the two renal arteries were connected by a Y tube with one column of alcohol, so that the pressure and amount of absolute alcohol perfused were as nearly equal as is possible to obtain.

In precipitating the iron and potassium ferrocyanid in the kidney the precipitating solution was perfused by gravity and the tissues were then fixed by absolute alcohol and mounted in the same way.

One important fact to remember in this connection is that the vasa recta (i. e., the arterial twigs running between the straight uriniferous tubules) receive much more alcohol when the kidney is perfused than the capillaries about the convoluted tubules. I have determined this definitely by injecting a gelatin mass colored with soluble Prussian blue, with exactly the same pressure and conditions used for perfusing with alcohol. The kidney was warmed by perfusing with physiologic salt solution at 40 C. and it was kept covered with the same. When the gelatin was perfused it flowed freely from the renal vein and the pelvis and ureter were colored blue. The gelatin was then made to set by plunging the kidney in very cold physiologic salt solution, while the pressure in the renal artery was kept up.

On section the blue was found chiefly in the vessels between the straight tubules, in the interlobular arteries and in the capillaries of the glomeruli, but not in the second set of capillaries (renal portal capillaries) about the contorted tubules. This may account for the more complete precipitation of pigment in the straight tubules, and especially just at the junction of the cortex

with the medulla. It is here that the greatest amount of pigment is found precipitated in these experiments.

THE ELIMINATION OF THE PIGMENT.

Indigo carmine, potassium ferrocyanid or carmine may be detected in the urine flowing from the ureter in from two and a half to three minutes after it has been injected into the jugular vein. In the case of iron it requires a slightly longer time—from four to five minutes. The tissues are all diffusely stained after the injection of carmine or indigo carmine. When the kidney is cut open after it has been perfused so as to precipitate the dye, it is seen to be deeply colored, mostly in the medulla and where the latter joins the cortex. On section most of the pigment is found within the uriniferous tubules. The question at once arises, is this pigmentation merely the result of diffusion, or is this foreign substance eliminated by the kidney and gotten rid of in this way?

In the case of carmine it can at once be stated that this is an excretory activity and not merely a diffusion. This statement is based on the observation that pigment granules can be seen within the epithelial cells of the organs of excretion, viz., the kidney, liver and colon, while we do not find them in the cells of the pancreas, spleen or muscles. When moderate amounts of the pigment have been injected these granules do not occur in the cells lining the stomach or small intestine, although the vascularity of all these tissues is fully as great as that of the excretory organs. Furthermore, the contents of the colon and sigmoid flexure show the presence of the dye, while the contents of the stomach and small intestine are not colored unless very large amounts of carmine have been injected. Sections of the tissues not concerned in the elimination of the stain show the pigment granules within the blood-vessels and perivascular lymph spaces, but not within the cells of the parenchyma.

THE MANNER OF ELIMINATION BY THE KIDNEY.

Attention may next be directed to determining whether the elimination by the kidney is the result of filtration through the glomeruli or the result of a protoplasmic activity of the epithelium lining the uriniferous tubules. Neither one of these processes precludes the possibility of the other, and both may operate at the same time. This is often lost sight of by those who endeavor to prove a favorite theory.

When a kidney is removed one-half hour after the injection of carmine into the systemic circulation; is perfused with absolute alcohol for an hour in the manner before mentioned, so as to fix the cells and precipitate the stain *in situ*; and is then imbedded, sectioned and mounted in agents which can not dissolve the stain, most of the pigment is found in the straight tubules of the medulla and those of the medullary rays reaching from the medulla into the cortex. The convoluted tubules of the cortex contain less pigment and it only occurs in places while the glomeruli are quite free from it.

The precipitated carmine occurs chiefly in the lumen of the convoluted tubule and in that part of the epithelial cells which borders on the lumen. The part of the epithelial cells which is nearest the basement membrane is not free from pigment, but with the low power appears to be uniformly tinted.

As stated before, this condition is taken to indicate absorption by those who hold to the filtration theory, while it is interpreted as evidence of excretory activity by those who hold the Bowman-Heidenhain theory.

The experiments presented in this paper seem to indicate that these granules are in the process of excretion rather than of absorption. This view is based on the following facts:

1. The pigment in the renal epithelium of the convoluted tubules is found chiefly, but not exclusively, in the part bordering on the lumen. If these cells be examined with a high power (1/12 oil immersion lens), the basal part shows not only a diffuse stain, but fine carmine granules. These can be found not only in cells containing large granules, but in many cells in which there are no coarse granules near the lumen. The difference in the size of these granules is fully as marked as the variation in the size of the neutrophile and eosinophile granules of leucocytes. Why is there this difference in the size of these precipitated carmine granules?

It has been pointed out that in perfusing the kidney with a pressure sufficient to cause a free flow from the renal vein, the vasa recta and the interlobular arteries receive most of the perfused fluid, while the capillaries about the convoluted tubules receive very little. Some of the perfused fluid filters through the blood-vessels of the glomeruli and escapes from the uriniferous tubules into the ureter even when absolute alcohol is used. It would seem possible, therefore, that the pigment is more completely precipitated in the straight tubules and outer part of the convoluted tubules than in the basal part of the latter. This would only explain the difference in the size of the granules, but not the difference in the amount of pigment in these two parts of the cells lining the convoluted tubules.

This difference in the distribution of the pigment does not necessarily indicate that it is absorbed by these cells. It will be recalled that in the mammary gland during active secretion the fat globules accumulate in that part of the cell next to the lumen of the acini, and are not uniformly distributed in the part near the basement membrane. The same thing is true of the zymogens of most glands which pour out external secretions. No one would contend from this condition alone that these products of gland activity are absorbed and not secreted.

2. Against the view that these pigment granules are being absorbed, we would point to the fact that some cells in the liver and many cells in the colon show the presence of such granules. If the amount of carmine injected is very large this pigment is also found in the epithelial cells lining the stomach and intestine, but when moderate amounts are used the dye is excreted chiefly by the kidneys and colon. The contents of these hollow viscera show that the carmine is excreted. Other tissues such as the pancreas and spleen, which are just as vascular, do not show the carmine granules in the cells. It can not be contended that the carmine granules in the cells lining the alimentary tract are being absorbed. It is much more probable that the epithelial cells of the uriniferous tubules like those of the colon are active in excreting this foreign substance from the blood.

3. If the ureter be obstructed so that the outflow of urine is stopped without interfering with the circulation of the kidney, the renal epithelium is free to act while the separation of fluid by the glomeruli is reduced to a minimum. When carmine is injected under these circumstances the amount of pigment in the obstructed kidney is much greater than in the normal one. The cortex is more deeply colored than in the unobstructed kidney, but still contains less than the medulla. Sections show most of the pigment in the lumen, as very

little is flushed out. The amount of pigment in the cells of the contorted tubules, and especially toward the basement membrane, is relatively increased. It might be contended that this is due to increased absorption under pressure, but the concentration of the urine which accumulates in the pelvis of the kidney when the ureter is obstructed argues strongly against the view that a dilute urine continues to be actively separated by the glomeruli when the ureter is obstructed. This has been determined by comparing the amounts of urine and urea respectively given off by the normal and by the obstructed kidney. My own experiments are not in accord with those of Cushny on this point.

3. When the free flow of urine is stopped by cutting the spinal cord and thereby lowering the blood-pressure, or as the result of surgical shock, or as the result of compressing the renal artery for a short time without injuring the intima, the injection of carmine into the circulation results in far more of this pigment being found in the uriniferous tubules and in the cells lining them than could be accounted for by a slight transudate which might continue from the glomeruli with complete resorption of the water. Indeed, when the flow of urine has been stopped on one side by the temporary compression of the renal artery the kidney of that side shows fully more carmine than its fellow. This condition would be reversed if the carmine in the cells were the result of absorption from a dilute urine.

4. In none of these cases does the stain show extensively in the glomeruli or capsule of Bowman when carmine dissolved by weak sodium hydroxid has been used. Even when the ureter has been obstructed and the kidney is deeply pigmented as contrasted with its fellow, the glomeruli do not show the pigment granules one would expect to find if the filtration through these structures had continued. If all the pigment found in the uriniferous tubules had come from the glomeruli and none from the epithelial cells, then the glomeruli should also be stained when their activity is stopped by obstruction to the outflow of urine from the kidney.

When ammonium carminate held in solution by glycerin is used the glomeruli show carmine granules, whether the ureter is obstructed or not. This solution has a greater diuretic action than any other substance used, and it is probably in more complete solution and more diffusible than the carmine dissolved by soda.

5. The glomeruli do not show a deposition of carmine granules, even when the animal is killed shortly after the injection of carmine dissolved by sodium hydroxid. In one experiment the kidney was excised four minutes after the injection of carmine and one minute after it appeared in the urine; in others after intervals of 10, 15 and 20 minutes, but in none of them have the glomeruli been stained as has been described with indigo carmine.

In conclusion it should be stated that these experiments merely indicate that pigments are excreted by a protoplasmic activity of the renal epithelium. They do not contend that none of the pigment is filtered through the glomeruli. On the other hand, when ammonium carminate is used the sections indicate that this is the case, and Starling's experiments with indigo carmine show the same thing. As stated before, we should bear in mind that both processes may operate at the same time.

The elimination of pigments by the kidney does not afford a method of determining positively and finally whether the rodged epithelium is excretive or absorptive in function, but the former seems the more probable.

Of course, urea and the metabolites of the urine may be handled in a different way from foreign substances injected into the circulation. However, it seems improbable that the cells lining the uriniferous tubules are concerned exclusively in absorption, as has been contended recently.

DISCUSSION.

DR. E. R. LECOUNT, Chicago—I would like to ask if the arrangement of the pigment granules in the secretory cells of the convoluted epithelium was in rows, at right angles to the channel. We can recall that in various kinds of secretory epithelium it has been proven that there are intracellular passages. In the pancreas, liver cells and others there are pathways which lead into the channels. The renal epithelium is striated and the striations are at right angles to the tubules. I do not know that it has been proven that this is due to the existence of passageways, but it would be interesting to determine that point.

DR. W. S. CARTER, Galveston, Texas—I have not observed any such arrangement. The coarse pigment granules occur in great numbers near the lumen of the tubule, and where we have these very fine ones they are very evenly distributed through the protoplasm.

THE PHARMACOLOGIC ACTION OF DRUGS;

IS IT DETERMINED BY CHEMICAL STRUCTURE OR BY PHYSICAL CHARACTERS?*

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A close connection between therapeutics and chemistry has been recognized so long and has survived so many changes in each of these subjects that it was only natural that in the last half century the infant science of experimental pharmacology should renew the old alliance. Accordingly, soon after the idea of molecular structure and the use of structural formulæ were introduced in chemistry, the question was broached whether the effects of drugs in the organism could be co-ordinated with their molecular constitution. The answer has very generally been in the affirmative, and the view that there exists a direct relationship between chemical configuration and pharmacologic action has been supported by a number of important memoirs. Some sanguine advocates have even expressed the hope that with advancing knowledge of pharmacology the time may arrive when the action of a remedy will be deduced from its structure alone, and when the quest for new remedies will no longer be pursued in the haphazard way of the past, but with the definite object of forming a molecule of a certain structural arrangement, which will then necessarily possess the action desired.

Before considering how far this theory has proved to be correct, it may be well to examine what is meant by the structural formulæ which adorn so many pharmacologic treatises, but which I fear fail to enlighten as many readers as they repel. These may be regarded as a sort of shorthand statement of a series of reactions which the compound has been found to present; the structural formula, like a family tree, indicates the origin of the molecule, the products that may be expected from it when subjected to such processes as oxidation or reduction, and what compounds it is likely to

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

enter into combination with. On the other hand, the structural formula, again like a family tree, takes no account of the physical properties of the individual, such as the solubility, volatility, etc. For example, the formula of ethyl alcohol ($\text{CH}_3\text{CH}_2\text{OH}$) indicates its relationship to ethane (CH_3CH_3), acetic acid (CH_3COOH), etc., and suggests that it will tend to form combinations with acids, etc.; but if this substance were unknown and its formula only were before us, one could not infer with any certainty whether it would be soluble in water in any given proportion, or how volatile it would prove to be. The molecular structure may thus indicate the action of a substance in so far as that is determined by the combinations formed by the drug in the organism, but can give no clue to those effects which are due to its volatility, solubility or other physical properties. Now, it is obvious to every one that these influence the action of drugs very considerably; for example, the volatility of ether and chloroform determines largely their availability as anesthetics, while the less volatile nature of chloral and paraldehyd precludes their use for this purpose in man, but renders them more suitable than their more volatile relatives for use as hypnotics.

The importance of these physical factors has always received some recognition, for it has always been admitted that the relation between structure and action only holds as far as the physical characters of the bodies do not diverge too widely. Thus the lower alcohols all have a characteristic action on the central nervous system, which is lost as the molecule becomes more complex in the higher members of the series, and this has been explained by the molecule in the latter being absorbed less readily through its smaller solubility in the body fluids. But while admitting that the physical properties influence the results to some extent, it has been held that the real key to the action of remedies lies in their chemical affinities, that, for example, the change induced in the effects of methane (CH_4), by the substitution of a hydroxyl for a hydrogen atom is due rather to the chemical affinities of the hydroxyl than to the fact that the substance changes from a gas to a liquid. In recent years, however, the study of chemical structure has found a rival in the study of the physical characters; the properties of individual substances have begun to receive some attention as well as their relationships; and with this revival in interest the question has arisen as to the relative importance of the molecular constitution and of the physical characters of a substance in determining its pharmacologic action. In other words, a doubt has arisen whether the pharmacologic effects are due to the formation of chemical combinations in the tissues or to the presence of the drugs as uncombined foreign bodies in the cells and fluids. If chemical compounds are formed, then the molecular structure is the direct determining factor, though it may be modified by the physical characters, while, on the other hand, if no true chemical combinations are formed, the structure is of less immediate interest to the pharmacologist, and the physical characters ought to receive his chief attention, while the connection between the structure and the physical properties scarcely comes within his sphere of action.

A concrete example may illustrate the problem, and a simple one is offered by a comparison of the effects of methane (CH_4), which is practically inert, and of methyl alcohol (CH_3OH), which is a depressant to the central nervous system. It may be held that the OH of the alcohol permits of a combination being formed with

protoplasm in the same way as with an acid, and that in the absence of OH in methane the latter is incapable of such a combination and therefore inert; or it may be suggested that the alcohol possesses some physical property, e. g., a lower volatility, which permits of its effecting some change in the cell without any chemical combination being formed, while methane is devoid of this physical property and inert. The question can be decided only by examining a large number of bodies and finding how far they support either view. For example, if it is found that no body homologous to methane is depressant and all the alcohols homologous with methyl alcohol resemble it in activity, there will be strong grounds for supposing that the hydroxyl in the methyl alcohol is the essential feature. On the other hand, if it is found that a large number of bodies possessing the physical characters of methyl alcohol, but without a hydroxyl group, are depressant, while those resembling methane in physical properties, but differing from it in structure are inert, the probability will be strong that the physical properties are the essential feature.

The time at my disposal is too short to allow of taking up all the work that has been done on this subject, and I think it will be more profitable to take up a few examples in which the action has been ascribed to one or the other factor.

One of the instances often quoted in support of the position that action is determined by structure is the large series of hypnotic bodies belonging to the aliphatic or open-chain series, including alcohol, ether, chloroform, chloral, paraldehyd, etc. Here is a series closely connected chemically and possessed of a characteristic action on the central nervous system. It is natural that it should be regarded as evidence in favor of the older view. It is true that the relationship proves only to be a very general one, and that whenever an attempt is made to apply the rule to individuals some exception is found to present itself. I need only cite the interesting experiments of Kionka¹ on the subject. He found that methane (CH_4), is devoid of narcotic action, while CH_3Cl has some effect. The presence of Cl appears to endow the molecule with activity, and further halogen substitution might be expected to augment this; on comparing CH_3Cl and CHCl_3 , he found the latter four times more powerful. The inference would seem justified that CCl_4 would prove still more active; but as a matter of fact it is only half as depressant as CHCl_3 . This result and numerous other similar divergences from what might have been expected from the older view have suggested that the depressant qualities of this series are not determined by their molecular structure, but by some physical factor which is present in a considerable proportion of the chemical group, but not in all of them. Professor Hans Meyer,² the originator of this view, ascribes the depressant action largely to their tendency to pass from watery solutions into fats and oils. Now, the cells in which these bodies tend to accumulate are peculiarly rich in lecithin and cholesterin (lipoids), and when a molecule of chloroform comes in contact with these cells it tends to leave the blood plasma and enter the lipoids. Its presence in the cells, however, deranges their delicate mechanism somewhat in the same way as a grain of sand may stop a watch, without any chemical combination having been formed. When chloroform is no longer inhaled and the blood becomes

1. Arch. Internat. de Pharmacodyn. et de Ther., vii, 1900.

2. Arch. f. Exp. Path. u. Pharm., xiii, p. 109. Compare, also, Overton, Studien über die Narkose, Jena, Fischer, 1901.

free from it, the molecules in the nerve cells slowly return to the plasma, for though they are not so soluble in the latter as in the lipoids, they are not, of course, quite insoluble in it, and as those returning to the plasma are duly excreted in the lungs, more and more passes from the lipoids until these are finally capable of assuming their normal relation to the rest of the cell and consciousness returns.

In order to possess the hypnotic action associated with the methane series, a substance must thus be partially soluble in water or blood plasma and more soluble in the lipoids. In fact, a certain definite relation in its solubilities must exist, and in addition it must not act very powerfully on any other organ, otherwise its narcotic action will be obscured. This view is not unattended with difficulties, one of the most obvious of which is the fact that many substances share the physical properties of the narcotics without inducing their effects in the organism. Thus many substances of the benzol or aromatic series resemble the anesthetics in their relative solubility in water and lipoids, but fail to induce true narcosis. In some of them doubtless narcosis could be induced were it not for their affecting other organs. Meyer³ has adduced one very telling argument in favor of his view in his investigation of the narcotic action of drugs at different temperatures and his comparisons of their relative solubility in water and oil at these temperatures. For example, he finds that the tendency of alcohol to pass from water to oil is almost twice as great at 30 C. as at 3 C., and in accord with this he found that it was about twice as depressant to tadpoles at 30 C. as at 3 C. On the other hand, less salicylamid passes into the oil from water at the higher temperature, and the narcotic action of this substance is correspondingly reduced. It seems quite impossible to account for this result on the older view of structural relationship, for this, of course, remains unchanged by the change in temperature.

In these cases the question is much complicated by the fact that the drugs have to be absorbed into the blood and distributed throughout the body and then taken up by the nerve cells; there is thus large opportunity for the interference of other factors than the relationship between the molecules and the nerve cells. A simpler process to follow is afforded by the local reactions, and one of these has been worked out in detail by Sternberg.⁴ I refer to the characters of the bodies which have a sweet or bitter taste. Acid and alkaline tastes are, of course, not due to the similarity in structure of the acids on the one hand and of the alkalies on the other, but to the fact that acids in solution have a free hydrogen ion and alkalies a free hydroxyl ion; it is not similarity in molecular structure, then, but identity of ions that gives the identity of action here. Sternberg then confines his attention to sweet and bitter tasting substances and has obtained very striking results from his experiments, some of which may be mentioned here. The hydrocarbons are practically indifferent, but taste is conferred on them by the introduction of two or more OH groups, when the sense of sweetness follows. Thus glycol ($\text{CH}_2\text{OH}-\text{CH}_2\text{OH}$), glycerin ($\text{CH}_2\text{OH}.\text{CHOH}.\text{CH}_2\text{OH}$), erythritol ($\text{CH}_2\text{OH}(\text{CHOH})_2\text{CH}_2\text{OH}$) and the succeeding members of the series are all sweet. The same result is attained if oxygen is added in the aldehydic form instead of in the form of hydroxyl. Thus

biose ($\text{CH}_2\text{OH}-\text{CHO}$) is the first member of a sweet series, which may be followed up to dextrose if each C of the series has an OH attached to it. Even if one of the C atoms has no O attached to it the compound remains sweet, but if two C atoms are not oxygenated the taste is lost or changes to bitter. The oxygenated carbon atoms must, therefore, preponderate distinctly in bodies of this type which possess a sweet taste. That is, the sweetness is determined not by the presence of a definite group, but by the general character of the whole molecule; is there any physical character which is associated with such a molecule as Sternberg has defined as necessary to elicit the sensation of sweetness? Overton⁵ has recently shown that the hydrocarbons are insoluble in water, but that as the HO groups increase in number they tend to give the molecule greater solubility in water and less in lipoids. Here, too, there must be a certain relative excess of the OH groups as compared with the non-oxygenated carbons; in fact, it seems possible to associate sweetness with a certain relative solubility in water and oils, although the subject requires much further investigation. The relationship between sweetness and this physical property is certainly suggestive.

A series of compounds which react very differently to living matter while practically indistinguishable by ordinary chemical reactions are the optical isomers. These have been studied of late years by Fischer,⁶ who finds that the yeast cells and even the yeast ferments and emulsin can differentiate between the dextrorotary and levorotary isomeric sugars, while no ordinary chemical reagents select the one in preference to the other. Here again the property which determines the fate of these sugars does not seem to be associated with any one group in the molecule but to be determined by the character of the molecule as a whole, and this suggests that the selection of one isomer in preference to another by the ferments is due to the presence of some physical character, perhaps the rotation in one direction in the one, in the opposite in the other.⁷ A similar selective action has been shown to occur in the higher animals as well as in the plants. I have recently been able to demonstrate a similar phenomenon in optically isomeric alkaloids. Thus levo-hyoscyamin proved to act about twelve times as strongly on the salivary glands as dextrohyoscyamin, although these two bodies can not be differentiated by ordinary chemical methods and would, therefore, be regarded as identical were it not for the different directions in which they rotate the ray of polarized light. It seems to me much more likely that the physical characteristic is the determining factor in this phenomenon than that the difference in configuration is the direct cause, although the physical factor undoubtedly rests on a structural difference ultimately. This can be determined, however, only by comparing the effects of other isomers on these organs.

Another set of reactions which appear to rest on a difference in physical properties rather than on chemical structure is offered by the behavior of the salts of the alkalies in the bowel. The class of saline cathartics can not be differentiated from the ordinary salts, such as the chlorids, iodids and nitrates, by any chemical feature possessed by the one group and not by the other, and it

5. Pflüger's Arch., xcii, p. 115, 1902.

6. Ztschr. f. Physiol. Chem., xxvi, p. 61.

7. That the direction of rotation influences the reactions is shown by the fact that these isomers may be separated by the use of reagents which are themselves possessed of rotary powers.

3. Arch. f. Exp. Path. u. Pharm., xlv, p. 338.

4. Arch. f. Phys., 1898, p. 451; Ztschr. f. Psych. u. Phys. der Sinnesorgan., 1899, xx, p. 385.

seems necessary to resort to some physical differentiation, although it is not possible to define exactly this physical property at present. Thus the sulphates, phosphates, tartrates, and citrates of the alkalies are all possessed of cathartic properties, while the chlorids, bromids, iodids and nitrates are practically devoid of this action, and it might be supposed that purgation is connected in some way with the bivalent or trivalent anion. This rule fails, however, in several instances, notably in the case of the monovalent cathartic fluorids and in some members of the acetic acid series. On examining this series Wallace⁸ found that formates, acetates, propionates, butyrates, valerates and caproates were rapidly absorbed; the next member, the enanthylates, passed more slowly from the bowel, and the eighth of the series, the caprylates, resembled the sulphates in their behavior. On taking up a parallel series of bivalent salts, he found that the oxalates were absorbed with much greater difficulty than the higher members, the malonates and succinates. The constitution of these bodies thus gives no key to their effects, and it seems probable that a clue must be sought in their physical characters.

The theory that pharmacologic action is correlated with the formation of chemical combinations has received a new lease of life through the remarkable series of discoveries which have been made in regard to immunity and which form the foundation of Ehrlich's theory. It is too early to attempt a discussion of the physical properties which may underlie these processes, but it is to be remarked that in the case of one hemolysin whose chemical and physical properties are known, the activity appears to be determined by the solubility co-efficient rather than by its power of chemical combination proper. I refer to the observations of Ransom⁹ and Hedon,¹⁰ which render it probable that the destruction of the red corpuscles by saponin is due to the solubility of the poison in the lipoids, and that the anti-hemolytic effect of blood serum in this case is the result of the presence of lipoids in the serum. Somewhat similar results have been obtained with some of the bacterial lysins,¹¹ and it seems possible that conditions of solubility rather than true chemical combination may prove to be the explanation of the vagaries of the intermediate body. It is a well-known fact that certain drugs act only in the presence of other bodies which are in themselves inert, but which tend to facilitate the solution of the active principles. For example, the active principles of the vegetable cathartics often prove less satisfactory when given in a pure form than when mixed with the inert bodies with which they are found in Nature.

Full justice to this question could only be done in a much more extended paper than I am able to lay before you to-day. For though the question has arisen in its present form only in the last few years, the facts bearing on it are so numerous that they will occupy much time and many minds in classifying them. I shall be satisfied if I suggest to you that the time-honored view that chemical structure determines pharmacologic effect is once more on its trial, and that many facts which can be brought into accord with it only with a certain effort can be explained more satisfactorily by supposing that structure is only the ultimate fact, and that the physical factors depending on structure are the imme-

diate determinants of the action in the organism. On the other hand, there is no reason to doubt that many of the reactions of the living organism to chemical agents are the result of actual chemical combinations formed between them and the living substance.

THE PHARMACOLOGIC ACTION OF DRUGS; ITS RELATION TO THEIR THERAPEUTIC INDICATIONS.*

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The relation between the pharmacologic action of drugs and their therapeutic indications can best be shown after we have made a brief sketch of their history. From the earliest times to the present the use of drugs has been mainly derived from past experience. A system in which their use is based on past experiences which have not been carefully observed or controlled, as has been the case up to within a very few years, is called empirical therapeutics. A system in which the use of drugs is deduced from past experiences, which have been carefully controlled by scientific methods, is called rational therapeutics.

In the old days of Babylon when there were no physicians, the sick were exposed on the public ways so that they might converse with passers-by who perchance might have had the same ailment and who possibly could suggest a remedy. A similar custom prevailed among the Egyptians, who recorded on tablets in the temples the names of the remedies which had been found useful in certain ailments in order that they might be administered to persons suffering from these ailments. It is said that Hippocrates drew much of his therapeutic knowledge from such tablets in the temples on the Island of Cos.

Although various metals and salts were known to the old Egyptians, they relied almost wholly on drugs of botanical origin. Hippocrates, who lived about 460 B. C., based his therapeutics on the theory that the human body is composed of four humors—black bile, yellow bile, blood and phlegm, and that various diseases arose from the disproportion between these elements. He said that vinegar is diuretic and that its beneficial effects are due to its properties of dissolving the excess of black bile and of converting it into phlegm. He treated most diseases by emesis and catharsis and used as emetics black and white hellebore, and as purgatives these, in addition to mezereum, rhamnus, elaterium, colocynth, scammony and aloes. As diuretics he used baths, wine, garlic, onions, leeks, cucumbers, celery and other strong-smelling substances and cantharides, and as narcotics he used opium and atropa mandragora. Externally he used a few metallic salts.

For several hundred years Hippocrates' successors followed practically the same therapeutics. Occasionally one advised mild treatment with but little bleeding, while another brought into vogue energetic treatment with profuse bleeding and purging and the use of drugs in large doses.

During the first century of the christian era, Dioscorides wrote a book in which he described all substances having medicinal value and named the subject *materia medica*. He divided the book into three groups devoted,

8. Amer. Jour. of Phys., 1, p. 411, 1898.

9. Deutsch. med. Woch., 1901, p. 194.

10. Arch. Internal de Pharm. et de Ther., VIII, p. 381.

11. Noguchi: Univ. of Penn. Med. Bull., November, 1902, p. 327.

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respectively, to drugs of animal, vegetable and mineral origin. This work is of importance, as it was used as the standard on this subject as late as the sixteenth century.

Galen, who lived in the second century, considered that the body was composed of fire, air, water and earth; that it possessed two of the four "properties," heat, cold, wet and dry, and that drugs act by removing the excess of one or more of these "properties." Like Dioscorides, he attributed to every drug two of these "properties" to a varying degree. Thus he considered pepper hot to the fourth degree and mezerum cold to the first degree. He considered astringent and salty substances hot, bitter substances dry, and acid substances cold. He treated all diseases, whether hot or cold, wet or dry, according to the axiom *contraria, contrariis curantur*.

From the fifth to the twelfth century the Arabs monopolized the field of medicine and science. They followed Galen and Aristotle closely, but introduced a few new drugs. Among these were camphor and the milder purgatives, such as manna, senna, rhubarb, tamarind and cassia. Muriate of mercury, which they used for scabies; orpiment, which they used as an injection in dysentery, and niter internally as a diuretic were a few of the metallic compounds used.

After the Arabians came the German, French and English alchemists, among whom were Roger Bacon, who prepared gun powder; Arnould de Villeneuve, who prepared alcohol and turpentine, and Basil Valentine, the German monk, who, in the fifteenth century, introduced antimony into medicine. Valentine was led to this step on account of an accidental observation which he made on swine which had eaten some antimony that he had thrown out of his laboratory window. The swine had been violently purged, but subsequently gained remarkably in weight.

The greatest of the alchemists was Paracelsus, who, in the sixteenth century, tried to utilize chemical knowledge in medicine and tried to overthrow the humor doctrines of Hippocrates and Galen. He believed that the living organism was composed of three elements: salt, mercury and sulphur; that its existence was maintained by chemical processes and fermentations, and that disease was due to a loss of balance between the three elements. His therapeutics was based on these assumptions and also on the theory that there was a specific for each disease. Syphilis, which in his time was raging through Europe, he combated very successfully with inunctions, fumigations and internal use of mercury. He used mercury with success in leprosy, dropsy and scabies. For this last-named disease he also used sulphur. As a purgative he used precipitated mercury. Unfortunately, he used drugs on account of their resemblance to certain organs—lemon, for example, for heart disease because it had roughly the shape of a heart, and blood root for blood disease because it was red. At the end of the sixteenth century, Van Helmont, who followed the principles of Paracelsus, completed the downfall of the Galenic humor doctrines and of the therapeutics based on it.

It was about this period that cinchona, which had been used for a long time by the Indians in the treatment of malaria, was imported from Peru and recommended for the treatment of intermittent fever because of the cure it had produced on the vice-queen of Peru. It was used in fevers of other varieties and, in fact, in almost all diseases. Lobelia and sarsaparilla, which

were used by the Indians for syphilis, were also introduced at this period and were used by those who were opposed to mercury. *Ipecacuanha* was imported from Brazil, but was used mainly by charlatans until it was successfully administered for dysentery to the French Crown Prince. It then received universal application. In 1640, Parkinson, in his work on botany, described digitalis, and recommended its use internally for epilepsy and externally for gout. It was not until almost a hundred years later that Withering discovered its diuretic and cardiac action and recommended its use in dropsy where the heart is weak.

From the time of Hippocrates to the nineteenth century a number of new drugs were added to the *materia medica*. The drugs used in different diseases were often changed. New diseases were treated with both old and new drugs. Every now and then a specific was declared for a certain disease, but it was soon discarded for another. After many systems of therapeutics based on sophistry had passed through the history of the world, physicians used drugs more or less according to their own experiences. Practically all of them differed in their opinion concerning the value of a drug in certain diseases.

In ancient Greece and Rome after energetic treatments had been in vogue for a time a reaction took place, and only small doses and mild measures were used. In the same manner after a period of energetic treatment with heroic doses of drugs from the time of Paracelsus to the end of the eighteenth century a reaction took place in the establishment of homeopathy with its infinitesimal doses. After making very imperfect observations the founder of homeopathy, Hahnemann, came to the unwarranted conclusions that drugs had opposite actions in small and large doses; that they acquired mystical curative power by unlimited dilutions; that symptoms alone should be treated regardless of the cause of diseases, and that these symptoms should be treated by a drug which produced the same symptoms in large doses.

Unfortunately, this whole system was based on a fallacy. Drugs do not necessarily produce in small doses effects opposite to those which they produce in large doses and can not possess any action whatsoever in extreme dilution, and, further, so little was known accurately about drugs at that time that often very erroneous actions were attributed to them. Homeopathy had, however, a practical success, according to statistics. This is not astonishing in view of the fact that its followers employed the best possible hygienic measures, better even than those used in the other schools. By the too heroic administrations of drugs without proper knowledge of their actions the end of the patient was often hastened or at least recovery was often impeded, so it is quite easy to see the reason for the apparent success of homeopathy at that time, as it was a system which really consisted in administering no drug at all, and thus permitted Nature to cure when favored by good hygienic measures.

Pharmacology remained behind some of the other branches of medicine because the methods of observation used to study the action of drugs were entirely wrong. The ancients as well as the empiricists of the middle age could make no headway in pharmacology on account of their inaccurate methods of observations. When a person recovered from a disease after the use of a drug they attributed the recovery to the use of the drug without further attempts to find whether or not this was

really so or whether the use of the drug and the recovery were merely two sequent events.

The theory of obtaining knowledge by practical experimentation is certainly a good one, but observations must be made and conclusions drawn with the greatest caution. When a drug is administered to a patient and he recovers from the disease the question arises whether or not the recovery is due to the drug. Good clinicians in hospitals have tried salicylates in rheumatism in a series of cases and have come to the conclusion that they have marked action. Other equally good clinicians can not see any good effects whatever. This discrepancy probably comes from the fact that those reporting good results observed a series of cases the majority of which had the disease mildly while the others observed it in patients who had the disease severely. The errors of the clinical experimental method can to a certain extent be overcome when the action of the drug is observed on thousands of patients by a large number of physicians. The good effect of mercury in syphilis which has been attested by its action in a very large number of cases over a period of centuries is even now thrown into grave doubts by a number of syphilographers who claim equally good results without its use.

Another source of error in the study of drugs has been in the use of crude preparations. These contain very variable quantities of active substances, sometimes none at all when the active substances are easily decomposed. A crude preparation sometimes contains two substances which are antidotes for each other, so that its action may depend on the ratio of each substance present.

If the methods so far described for ascertaining the action of a drug and its value in disease are so unreliable, what can, then, be done to raise the efficacy of therapeutics? The development of chemistry and physiology has helped to solve this question. In large part through the influence of Bacon's teaching of the accurate method of experimentation and of accurate deduction, physics was developed and the mystic art of alchemy was gradually transformed into the exact science of chemistry. As soon as chemistry was placed on an accurate footing it took enormous strides. Soon numbers of new compounds were found and analyzed by new and accurate methods, so that at the beginning of the nineteenth century the body to which opium chiefly owed its activity was isolated. The isolation of morphin from opium by Seturner in 1816 was followed by the isolation of quinin from cinchona bark by Pelletier in 1820, the isolation of aconitin from aconitum by Brandes, 1821, the isolation of strychnin from nux vomica by Pelletier in 1818, and the isolation of atropin from belladonna by Brandes in 1823. By administering these pure active principles to animals and carefully studying their action when other influences were excluded the science of experimental pharmacology was developed. It was by this method that Morton by experiments on mice and on himself discovered the narcotic properties of ether and introduced it into surgical practice; that Schmiedeberg discovered and studied the active principle of poisonous mushrooms and taught us its antidote by which many lives have been saved. It was by this method that the chemist Pasteur discovered the cure for rabies and Roux the specific for diphtheria. Countless numbers of drugs could be enumerated whose beneficial influence in therapeutics was derived from a careful and accurate study of their pharmacologic action.

Knowing the exact action of a drug in health, how shall we apply this knowledge in disease? Pathologic

physiology teaches us that disease is due either to the abnormal increase, decrease or arrest of a function from some cause or causes. Naturally, our first thought is that drugs should be directed when possible against the cause of a disease. Examples of this are the use of quinin in malaria and the use of antitoxin in diphtheria. This method is practical, however, in but a very limited number of diseases. We do not know the cause of many diseases, and but few drugs have been found to act on the cause of disease. Even if we could apply drugs to the cause of every disease, we could not have a perfect system of therapeutics, for decrease in certain functions may have been produced which would remain in spite of the removal of the cause of the disease. As the action of a drug consists only in increasing or decreasing functions, our main use of drugs consists in increasing functions which are abnormally decreased and decreasing functions which are abnormally increased.

But like all new sciences, during its infancy pharmacology received opposition. Some clinicians objected to therapeutics based on scientific experiments, and still advocated the old empirical system. Nowadays, however, there is not a good clinician who does not realize not only the usefulness but the indispensability of an accurate knowledge of the action of drugs in treating diseases. In former times physicians would have considered it sufficient to know that morphin relieves pain and produces sleep. We know now that we could not use this drug to best advantage and with safety without knowing something of its other properties which have been learned by scientific experiments. Thus in using morphin to relieve pain in pneumonia, asphyxiation might be hastened by a physician who does not know that morphin depresses the respiratory center. Again, a case of morphin poisoning can not be properly treated without a knowledge of the fact that morphin is excreted in very large part by the stomach for hours even after its subcutaneous administration. Knowing this fact, the stomach should be washed out repeatedly at stated intervals in order to remove the morphin which has been excreted before it is reabsorbed. Many other examples could be given to show that a superficial knowledge of drugs acquired from clinical experience alone is not only not productive of best results in therapeutics, but that it may even be dangerous.

Realizing this fact, the best clinicians the world over now try to base their therapeutics on experimental pharmacology. There are, unfortunately, still a few cases where we are obliged to use drugs empirically. When we do use them in this manner we should know all that could be learned through scientific research concerning the action of these drugs in order to avoid undesirable results.

The general anesthetics, ether and chloroform, are absorbed into the blood according to the laws of partial tension. The blood absorbs these from the air of the alveoli until it contains the same concentration. On the other hand, the anesthetic passes back from the blood into the air of the alveoli as soon as the concentration in the latter is decreased. The intensity of action of the anesthetics is not dependent on the total amount of anesthetics taken but on their concentration in the blood at a given time. Not very seldom death occurs during anesthesia from ignorance of these facts by administering a small amount of an anesthetic, but in a too concentrated form. None of the anesthetics, including ether, has ever been shown to have a direct stimulant action on the heart. On the contrary, they all depress

this organ when given in sufficient doses. This fact makes obvious the undesirability of the use of ether subcutaneously in collapse, and especially in collapse following ether or chloroform anesthesia.

Experiments show that chloral and its allies have marked depressant effect on the circulation and respiration, while urethane and paraldehyd do not have this marked depressant effect; in fact, urethane even stimulates respiration. This indicates to us the use of urethane and paraldehyd instead of chloral when the circulation and respiration are weak. Chloral, which is more powerful than the others, still has its usefulness in cases without weakness of respiration or circulation where a powerful hypnotic is required.

Ever since antiseptics were first discovered much labor has been spent in trying to find an antiseptic which would kill disease-producing organisms in the circulation. Benzozol, carbolic acid and formaldehyd have been recommended for pyemia and general tuberculosis. Experiments have failed to show any substance which can be placed in the blood in great enough concentration to kill bacteria there without injuring or killing the subject. The use of all such substances recommended up to the present time is certainly to be discouraged because not only do we not attain our end, but decrease the vitality of the patient with strong protoplasmic poisons and, therefore, hasten his death. There is one drug, however, which probably destroys an animal parasite in the blood, i. e., quinin in malaria. This is possible because of the great selectiveness which quinin has for the lower forms of protoplasm.

Apomorphin has been advised as a narcotic in the treatment of alcoholismus. It can easily be shown by experiments that apomorphin does not have any narcotic properties whatsoever except just before it produces death. Its beneficial action in cases of alcoholismus can be explained by its emetic action. By producing nausea it brings about a disgust for alcoholic beverages.

In former times a large number of drugs, including calomel and podophyllin, were used as cholagogues, i. e., to increase biliary secretion. Recent experiments have shown direct cholagogue effects to be produced by bile alone. The other so-called cholagogues are merely cathartics, and what good effects they produce can all be explained by their purgative action.

Digitalis is one of the most useful, but at the same time, most misused of drugs. Many physicians ignore the double action of digitalis on the heart, i. e., the action on the inhibitory apparatus and that on the heart muscle directly. The main indication for digitalis in medicine is based on its power of increasing the force of the heart contraction. The results desired in cardiac uncompensation, an increase in the force of the heart and disappearance of dropsy, may be obtained with little or no diminution in the rate of the heart beat. On the other hand, decrease in the rate may occur without a sufficient increase in the force of the heart. In determining the dose of digitalis in a given case of cardiac uncompensation we must not be guided by the effect on the rate of the pulse alone, but especially by the effect on the force of the pulse, by the disappearance of the edema and by the increase in diuresis. Since the action of digitalis is to increase the force of the heart, its administration in a fully compensated heart is not indicated because it can then only uselessly overwork the heart. Since the action of the various members of the digitalis group, such as strophanthus, squills and convallaria, is, in the main, the same as that of

digitalis, these can be used interchangeably with the latter.

Strychnin slows the heart by stimulation of the vagus and constricts the peripheral vessels by action on the vasomotor centrally and peripherally, but it does not stimulate the motor ganglia nor the muscle of the heart. These facts suggest a different use for strychnin than for digitalis. Strychnin can be used only to lower the rate of the pulse in tachycardia or to raise blood pressure in collapse, but good results can not be expected when we wish to increase the power of contraction of the heart directly. It should be used with care in degenerated hearts and vessels for fear of straining the former and rupturing the latter by the increased blood pressure incident to the constriction of the peripheral vessels.

For ages patients have been advised to frequent springs and spas for the cure of almost every disease. It is only comparatively recently that we have understood the *modus operandi* of this treatment and the source of benefit when obtained. Mystical curative power was formerly attributed to baths. We know now that neither water nor salts are absorbed through the unbroken skin, therefore baths can only have local effect on the skin, which is an irritant one, capable of producing reflex stimulation of circulation, respiration and consequently of metabolism. The ingestion of large quantities of water with salts produces an increase in metabolism by the salt action after absorption. On account of this increase in metabolism patients with almost any chronic disease are temporarily benefited. Furthermore, on account of the fact that salts and alkalies have the power of dissolving mucus, mineral waters containing these can benefit patients with catarrhs of the stomach and intestines by dissolving the mucus which is adherent to the walls. It is obvious that the same good results might be obtained at home by baths and by drinking water to which various salts had been added if we had not in the spas the additional action of the psychic influence of change of scenery, pleasant surroundings and careful régime.

[The discussion on the papers of Drs. Cushny, Tyrode and Sollmann will follow the paper of Dr. Sollmann next week.]

NON-ABSORBENT GAUZE:

THE PROPER MATERIAL FOR TAMPONADES IN SURGICAL AND OBSTETRIC HEMORRHIAGES; A PRELIMINARY PAPER.*

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CHICAGO.

In presenting the subject of non-absorbent gauze for your consideration I am not offering a new topic for discussion; non-absorbent gauze takes its origin contemporaneously with the antiseptic dressings of Lister. Lister's¹ earlier dressings were distinctly non-absorbent; the manner of their production secured it, for muslin was soaked in a heated mixture of paraffin 16 parts, resin 4 parts and carbolic acid crystal 1 part; while still warm the excess of the compound was wrung out. Lister²

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Sansom, A. E.: *The Antiseptic System*, Philadelphia, 1870.
2. Lister, J.: *Edinburgh Med. Jour.*, p. 147, 1871.

shortly thereafter even suggested an 8 per cent. carbolic gauze made in the same manner. The paraffin counteracted the adhesiveness of the resin, and together they precluded a capillarity in gauzes thus treated. The faults of this carbolized gauze were early recognized and were its non-absorbence and its tendency to cake into a solid mass. In turn, Lister² experimented with corrosive sublimate and cyanid of mercury; the former, he found, combined with the discharges (pus and blood), being precipitated as an albumin-mercury chlorid, which did not have the antiseptic power of the bichlorid. By suspending the albumin-mercury chlorid in blood serum he secured a gauze which was "harsh mechanically and was not very absorbent (a serious defect)." To overcome these defects he tried a combination of the chlorids of ammonia and mercury (sal-alum-broth), the ammonia salt preventing the precipitation of the mercuric salt in the presence of albumin, but not inhibiting capillarity. The cyanid of mercury was too irritating for clinical use. Thereafter, surgical supply manufacturers used their skill in developing a true absorbent gauze.

My purpose in presenting these elementary facts is to show not Lister's endeavor to secure an ideal antiseptic gauze (his prime motive), but his endeavor to find an antiseptic gauze which was truly absorbent. His contemporaries, old and young, have kept his second purpose constantly in mind, and the original gauzes which were truly non-absorbent have been relegated to unmerited oblivion. In the early antiseptic days wound secretions were frequent, so an absorbent gauze was the desideratum of all surgeons; to-day, discharging wounds are seldom met, so the same necessity in all cases for a gauze with a marked capillarity does not exist as in former decades. To say the least, it does seem inconsistent for surgeons to require the same gauze for purposes of drainage as for packing in hemorrhage.

About a year ago R. H. M. Dawbarn of New York, in a personal communication, wrote me of the value of non-absorbent gauze in hemorrhages incident to surgical operations, and suggested that, in his opinion, it had as positive indications in obstetric uterovaginal tamponades as in surgical procedures; that for ten years he had repeatedly advised its use in various contributions on surgical subjects. The burden of my reply was that one of the physiologic functions of the puerperal uterus was to bleed for a variable period; therefore, if a gauze pack were introduced into the uterus it should be of such nature that it would not prohibit the normal drainage of that organ. Incited by his suggestion, I asked Johnson and Johnson to send me samples of plain non-absorbent gauze, with which I made some tests as to its action; the results of my experimentation, which will be epitomized later, have convinced me that when properly prepared its use is as clearly indicated in obstetrics as in surgical work. The one case in which I felt it was expedient to tampon since I began my investigation fully corroborated my tests; this case was one of severe hemorrhage following the manual removal of the placenta in a four months' criminal abortion.

The manufacture of non-absorbent gauze is practically a step short of the production of absorbent gauze; the raw cotton is thoroughly cleaned, then through devious treatments the individual fibers are gathered into threads, and the threads woven into the desired gauze. If the gauze is to be rendered absorbent it is boiled in a strong alkaline solution in order to remove the vegetable oil. The difference between the above non-absorbent gauze and commercial cheesecloth lies in the

fact that cheesecloth is treated with a "sizing," such as albumin, preparations of zinc, clay, etc. The sizing increases the weight of the product, and also permits the utilizing of certain waste materials. In certain crude experiments as to the action of non-absorbent gauze I found these facts:

1. If the loose gauze be placed in a vessel containing a colored solution it floats; only that portion of the gauze brought into direct contact with the water is stained; no capillarity is observed. If the gauze be tightly rolled into a ball the same result occurs.

2. If the gauze be slightly dampened capillarity manifests itself after a protracted period; in one instance the solution passed over the rim of the vessel and down the dependent portion at the end of six hours. In a like test with absorbent gauze the water dropped in about a half hour.

3. If the gauze be thoroughly saturated with water and then subjected to the test, capillarity manifested itself shortly after a like treatment of absorbent gauze; when capillarity was thoroughly established the drops from the non-absorbent gauze fell more rapidly than from the other; the difference in capillarity may be ascribed, perhaps, to altered physical conditions—the size of the thread, more probably the size of the mesh, and the solidity of the wicking used, or if the mesh be filled with droplets of water "osmosis," if you please, may be the determining factor in producing a siphonage.

As a result of my tests I would hazard the statement that moist non-absorbent gauze has one-sixth to one-tenth the capillarity for water of the plain absorbent gauze. Some may raise the question, is a test with water applicable to the physical properties of blood? I maintain these tests are only illustrative; but I am confident that the two types of gauzes have relatively the same capillarity when considered with blood. Finding that the unprepared gauze under certain circumstances of moisture, or other physical conditions, may have a capillarity, has suggested to me that for certain restricted purposes in pure surgical work a gauze should be prepared which has no absorbency whatever; with this object in view I have considered the advisability of treating gauze with some substance which would attain this object. To be effective this substance should promote coagulation, or at least not delay it. As Lister's gauze was non-absorbent, from the method used in its preparation, I first thought of paraffin, so had some made. It produces a fine-looking gauze, soft in texture, but with difficulty takes up water or antiseptics within its substance. The chief objection to its use is that paraffin delays coagulation, so it is not an ideal substance for the purpose. As Pagenstecher³ has had signal success with celluloid yarn for suture material, I turned to it as the next possibility. Perhaps the same objection obtains as against paraffin. These two substances do not agglutinate the fibers of the thread, as is evidenced by the samples before you; it is known that a rough substance, especially one with fine projecting filaments, accelerates coagulation, so what is gained by non-absorbency only may be lost by these two substances delaying clottage, which may be a serious defect. By incorporating an approved antiseptic in the fluid paraffin or celluloid, gauzes thus prepared may be made thoroughly bactericidal. O. Schaeffer⁴ suggests, and uses, for post-partum uterovaginal tamponades a gauze impregnated with gutta percha; his paper was noted by me at the time of its publication, but his recommendation did not

3. Pagenstecher, J.: *Phlla. Med. Jour.*, p. 351, Feb. 10, 1900.

4. Schaeffer, O.: *Munch. med. Woch.*, p. 945, Oct. 6, 1896.

make a particular impression on me; his plan of putting an absorbent strip of gauze against the bleeding site (e. g., the placental site), and then packing about this strip the gutta-percha gauze, did not seem feasible to me. Non-absorbent gauze treated with gelatin in many respects would be an ideal solution of the difficulty; gelatin, whether used by hypodermoclysis, by mouth, or by rectum, promotes coagulation; when applied directly to the bleeding surface it is more certainly effective. I have used gelatin absorbent gauze in my tamponades several times with positive results. Gelatin gauze can hardly be a marketable product on account of its great liability to germ contamination, as it is a good culture medium; again, the frequent German reports of tetanus following the hypodermatic use of gelatin demand that it be sterilized with especial care. It has been recently stated that the hemostatic property of gelatin is dependent largely, if not exclusively, on the calcium chlorid contained in it. If calcium chlorid is the hemostatic principle of gelatin it would be far more safe and rational to impregnate gauze with a weak solution of the salt, one to 200 or 500. There is one adverse factor in regard to calcium chlorid gauze for uterine tamponades, namely, the gauze must be both aseptic and antiseptic if it is to be left in place twenty-four to thirty-six hours; it may be a difficult proposition to get a good antiseptic which will not decompose in the presence of the calcium. In parenthesis I might state that the usual gauzes impregnated with antiseptics have not the capillarity of plain gauze. Hall⁵ maintains this; Vignard⁶ claims iodoform gauze has only one-fifth the absorbency of plain gauze; the users of medicated gauze do not get the full drainage they anticipate.

INDICATIONS FOR THE USE OF NON-ABSORBENT GAUZE.

When drainage is indicated in the abdominal, pelvic, thoracic, pus cavities, etc., there is no room for doubt that the gauze must be absorbent to the greatest degree. In stating this I make no asseveration as to the merits of gauze drains. The routine dressing for clean, dry wounds and surfaces, I am equally convinced, should be covered with the usual hygroscopic materials. *Per contra*, in cases of hemorrhage where it is impossible to catch the bleeding vessels with forceps or inexpedient at the moment to ligate, and in parenchymatous oozing, a gauze should be applied which possesses a minimum degree of capillarity, or one in which absorbency is entirely absent. A few illustrative instances will be sufficient; the rapid extirpation of the carcinomatous breast with the axillary glands with one sweep of the knife, as practiced by N. Senn; no clamps are applied until the breast is disposed of; here firm compression, not capillarity, is required. Non-absorbent gauze will find a ready use in that bloody operation of removing the upper maxillary bone, etc. In these cases, as well as in alarming hemorrhage from ruptured vessels in the course of difficult laparotomies, with concomitant shock, the blood absorbed by the usual gauze may be of such amount as to seriously jeopardize the life of the patient; by packing with a non-absorbent gauze some ounces of blood may be saved to the patient which otherwise would be lost, and the danger point will be more safely tided over.

In the meager presentation of the surgical indications of non-absorbent gauze my only purpose is to introduce the subject to surgeons; it is for them to place the indications for the use of the several forms; for mere

compression I believe an impervious, or at least dry, gauze is to be elected; where compression and a modicum of drainage is demanded untreated non-absorbent gauze will be preferable.

OBSTETRIC INDICATIONS.

Antepartum.—The purpose of vaginal tamponades antepartum are fourfold: 1. To promote contractions. 2. To distend the vaginal vault, raise the uterus, and thus pull on the uterine arteries, acting as a tourniquet (Tweedy⁷). 3. To produce a compress against the bleeding surface (placenta previa). 4. To retain the effused blood so clotting may occur and thrombosis take place. The first three purposes will be as certainly produced by absorbent as non-absorbent gauze; their action is purely mechanical. As to the fourth, some may question which gauze is more effective; but either will act only as a mechanical stimulant to coagulation. I imagine that those who will defend the former will maintain that as soon as the serum is extruded from the clot it is absorbed by the gauze, thereby promoting further clotting. Coagulation is not an instantaneous process, it takes time; during the interval which must elapse absorbent gauze becomes saturated with blood, it has literally sapped the blood from the vessels; *per contra*, if non-absorbent gauze be used an efficient dam is pressed against the source of the bleeding, so only a minimum amount of blood escapes. Therefore, I would suggest that non-absorbent gauze should be used as the routine tampon material in all antepartum work where plugging is indicated, as in abortions, hydatidiform mole, placenta previa, etc.

Postpartum.—The virtues which we attribute to the antepartum vaginal tampon apply with equal force to the postpartum uterovaginal pack; I am positive that the most certain means of arresting postpartum hemorrhage lie in the timely use of thorough tamponades. I do not hold that tampons come into direct concurrence with massage through the abdomen, intrauterine compression, Breisky's bimanual compression, ergot, hot douche, and the other more or less certain means of securing contraction and coagulation, but I do maintain that all these should be held as tentative measures; when their uncertainty is manifested temporizing measures should be discarded and the gauze applied. To be sure, in very exceptional cases it will fail, but failure would be more glaring consequent to other methods of arresting bleeding. Chrobak⁸ states that the tampon failed three times in twenty-seven cases of atony after delivery of the placenta.

I would place the indications for the uterovaginal tamponade under these headings: 1. Atony. 2. Lacerations of the parturient canal (especially of the cervix) under such circumstances which preclude the delay incident to suturing the tears; in incomplete rupture of the uterus, and exceptionally in complete rupture. 3. Hemophilia (blood dyscrasia). 4. As a prophylactic against hemorrhage, as after severe operative deliveries; rapid delivery may be the cause of atony postpartum; the introduction of the tampon secures firm contractions, and prevents hemorrhage; the quicker the woman is returned to bed the better it is for her; this is especially the case in placenta previa. 5. As a prophylactic against infection; midwife cases, examinations by questionable hands, especially futile attempts at operative delivery; after manual delivery of the adherent or retained placenta.

7. Tweedy: British Med. Jour., p. 1445, vol. 1, 1898.

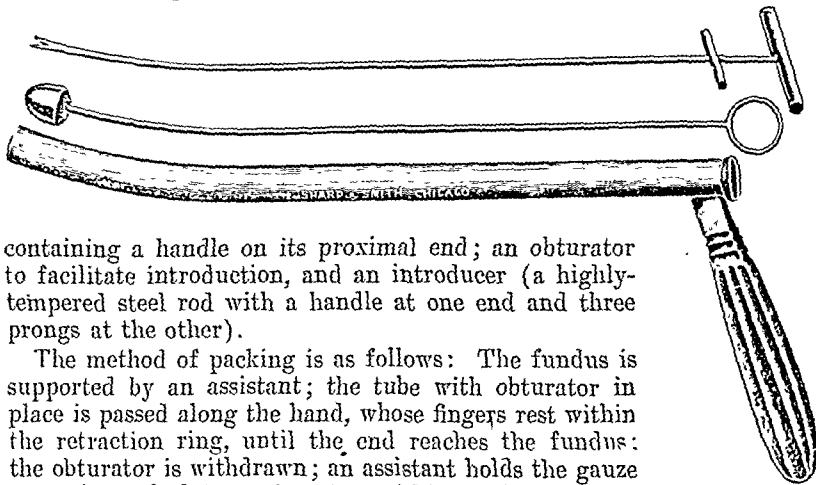
8. Chrobak: Wiener klin. Woch., Sept. 18, 1902.

5. Hall: Boston Med. and Surg. Jour., p. 518, vol. 137, 1897.
6. Vignard: Bulletin Med., Paris, No. 21, 1902.

In using the tampon as a prophylactic against infection I most certainly would not recommend a non absorbent gauze; here a gauze with good drainage power must be used; it should be impregnated with a powerful antiseptic which at the same time is innocuous to the human organism; thus far I have found no chemical which so fully meets the indication as chinolol. In all the other conditions warranting the tampon I would use the non-absorbent gauze medicated with chinolol. It is frankly debatable if it is proper to employ a gauze charged with a substance which prohibits all capillarity, of a nature as I have already described. In blood dyscrasias I am positive gelatin gauze holds first rank; perhaps calcium chlorid in combination with a stable antiseptic may vie with it in efficacy.

TECHNIC OF INTRODUCTION.

I shall not dwell on the methods of Dührssen, Schauta and others who vary the method of packing by using the hand alone, the hand and dressing forceps, or the specula, vulsella and dressing forceps; they have been repeatedly described, and in proper surroundings merit their use. I would like to call attention again to the packer I exhibited to the Chicago Gynecological Society,⁹ November, 1901. This instrument is a modification of some now in use, altered to meet the conditions of the parturient uterus. It consists of three parts (see illustration): a properly curved tube twenty-eight centimeters long with a caliber of eighteen millimeters,



containing a handle on its proximal end; an obturator to facilitate introduction, and an introducer (a highly-tempered steel rod with a handle at one end and three prongs at the other).

The method of packing is as follows: The fundus is supported by an assistant; the tube with obturator in place is passed along the hand, whose fingers rest within the retraction ring, until the end reaches the fundus: the obturator is withdrawn; an assistant holds the gauze properly packed in a glass jar, within an inch or two of the proximal opening of the tube, an end is picked up with a forceps and passed within the tube; then the introducer pushes it through the tube; finally, with quick back and forward movements, the introducer catches the gauze near the distal end of the carrier and carries it into the uterus, and eventually into the vagina. As the gauze is pushed home, the hand in the vagina holding the tube is gently swayed from side to side, thus completely filling the parturient canal. As the gauze escapes from the tube it (the tube) is gently withdrawn—in fact, is pushed back by the escaping gauze. Since introducing this instrument I have packed the genital tract eighteen times for the various indications already briefly enumerated with uniform success, and am convinced it is the safest method for placing gauze within the uterus: 1. It is the only aseptic method, for the gauze does not come in contact with living tissues until it is in its bed. I do not except the method where specula, vulsella and dressing forceps are used. 2. It requires only one introduction of an instrument; the dressing forceps must

enter the parturient tract at least thirty, if not sixty, times. 3. Further abrasion of the already scarified mucous membrane is absolutely obviated; rough gauze passing over the membrane will make additional denudations, and may dislodge clots which are forming. 4. One assistant only is necessary, although two are preferable; he may support the fundus and hold the jar of gauze at the proper place; by other methods two assistants are wellnigh indispensable. The only disadvantage I can imagine is that in a marked atony of the uterus the packing may not, perhaps, be as firmly applied, which I feel is a valid objection.

Finally, whatever method of introduction is used it is indispensable to have a properly prepared gauze, one which is aseptic and antiseptic, and is so placed in the container that it feeds out without any handling. The gauze should be at least ten yards long, one-half yard wide, folded into a strip about two inches broad with the free edge perfectly covered; this strip must be felted in the jar; under no circumstances must it be rolled up, then placed in the receptacle. At the present time no gauze suitable for obstetric tamponades is on the market.

387 North State Street.

DISCUSSION.

DR. CHAS. S. BACON, Chicago—The assumption that absorbent gauze is drainage is not in accord with facts. It is well known that a gauze packing is a packing and not a drain. Wicking should be used when a drain is wanted. The impregnation of gauze with hemostatic substances is much more important than the impregnation of gauze with something that makes it non-absorbent. The idea of mechanical compression of bleeding vessels of the uterus in postpartum hemorrhage is, I believe, a mistake. We can never pack the uterus so as to compress the bleeding vessels unless we have the contracting action of the uterus. Stimulation of the uterus to contraction is essential in postpartum hemorrhage. Whether that is done by gauze or by some other substance is immaterial. In some cases it is desirable to hasten the coagulability of the blood. That is particularly true in cases of dyscrasia where there is a slow coagulation of the blood; these are the most serious cases, and are not so extremely rare. It is important to have some hemostatic or coagulating action in these cases, and that is secured by the use of gelatin

or other substance. Investigations in that line are desirable. There is an indication for gauze packing in postpartum hemorrhage, such as lacerations that are not controlled by sutures. These are lacerations in the lower uterine segment that for some reason can not well be repaired by suture. Here we must rely on the contraction of the upper segment of the uterus to furnish resistance to the tampon. There we get a certain amount of mechanic compression, but it is not the compression that would be obtained in a surgical cavity after all, and even in these cases gauze impregnated with some coagulating substance would be useful.

DR. C. O. THIENHAUS, Milwaukee—In general surgery also we sometimes encounter situations in which gauze capable of promptly arresting capillary hemorrhage would be of greatest value. About two years ago a man of about 80 years of age was suffering from a chronic catarrh of the antrum. After opening the supermaxillary cavity, I endeavored to remove a few polypus growths on the middle turbinate. A severe hemorrhage followed which I was unable to control by gauze packing. Adrenalin solution stopped the hemorrhage promptly. Experiments ought to be made with gauze impregnated with adrenalin or with gelatin. Naturally, the drug used must not show bad effects on the wound or on the welfare of the patient.

⁹ Holmes, R. W.: Amer. Jour. of Obst., p. 245, February, 1902.

Dr. V. M. SNOWALTER, Point Clear, Ala.—Tamponage in postpartum hemorrhage is impractical and unscientific, except when the circular artery is involved in the laceration. One never has time to get the packing outfit ready. Immediate aid must be rendered. I have done this work for many years. A number of my patients suffer from pernicious anemia, which in some cases is secondary to uncinariasis, and with the seventh or eighth deliveries I usually expect a postpartum hemorrhage, and I am seldom disappointed. I never yet had a case where I had time to use tamponade or anything else except my hand. It is fashionable in my section to have very large families.

Dr. HUGO EHRENFEST, St. Louis—Tamponade is one of the most effective and important therapeutic measures at our command in dealing with obstetric hemorrhages. In practice we meet two difficulties: (1) We can not get gauze fit for tamponade. (It would be a great advantage if such a gauze should be marketed.) (2) It is a difficult procedure in packing the uterus to not carry infection from the vulva into the uterus. Special specula have been devised to protect the gauze which is introduced into the uterus, but they are very large and bulky. The instrument presented by Dr. Holmes is a valuable one. It will enable us to pack the uterus under aseptic conditions, and it is not so bulky that it can not be carried in the ordinary bag.

Dr. WM. P. MANTON, Detroit—Postpartum hemorrhage should be divided into two classes. In the first a large amount of blood is poured out in so short a time that the obstetrician has not time in which to do anything. In those cases there is sometimes a paralysis of the uterine muscular fibers, and the patient succumbs before the obstetrician can render assistance. In the ordinary cases of postpartum bleeding the hemorrhage is not so severe, but the obstetrician must act promptly and pack the uterus, and so stop the hemorrhage. The irritation of the gauze undoubtedly also acts in promoting contractions of the uterus. In my opinion, the absorbent gauze answers every purpose, although I have not had an opportunity to use the non-absorbent material. The blood fills the interstices of the gauze and promotes coagulation. This the non-absorbent gauze can not do. Any obstetrician of skill can, in the ordinary case, pack the uterus so tightly that not a drop of blood will escape. I think the drainage of serum is an advantage, and I can not see where, in obstetric practice at least, the non-absorbent gauze would be better than the absorbent. When we want to get drainage through the gauze we must use the absorbent, and in this respect the absorbent gauze is superior to the other.

Dr. SETH C. GORDON, Portland, Me.—Prevention is far better than cure, and I believe that nine-tenths of all postpartum hemorrhages can be prevented if the obstetricians do what they should. When I was studying medicine one of the best teachers in any branch was Prof. E. R. Peaslee of New York. He said never to deliver a woman without having some one press the uterus down as the child was being born. After the child is delivered this pressure on the uterus should be continued until the obstetrician is ready to take charge of the placenta. If one follows this teaching one will have less postpartum hemorrhage; in fact, I believe it will be rare.

Dr. H. J. STACEY, Leavenworth, Kas.—Absorbent gauze pushed in the uterus does not act as a drain. The only effect is to assist coagulation. Does not packing with a non-absorbent gauze act more like a plug and allow a condition very similar to accidental hemorrhage to occur? The only procedure in packing that is of any value is the manual method, as there is no time in which to get all the various instruments ready, although in a slow hemorrhage they might be used to advantage. In obstetric work I think Dr. Holmes has a very doubtful field for his gauze and packer.

Dr. H. E. PEARSE, Kansas City, Mo.—We sometimes find it absolutely necessary during an abdominal surgical operation to control hemorrhage by packing, although it is not perfect surgery. It is always a confession of defeat. The control of hemorrhage is not the only factor to be considered; there is the question of drainage, the hemostasis being perfect; and of infection. It is essential to use nothing but absolutely

sterile gauze. I long ago discarded medicated gauze where plain sterile gauze would answer the purpose, as it usually does. I control simple venous oozing with plain gauze, although this will not control arterial hemorrhage. Iodoform gauze is better for that purpose, although alum water is also useful. When we have to deal with an infected surface it is advisable to use iodoform gauze. When gauze is needed only to control hemorrhage I believe I will try Dr. Holmes' non-absorbable gauze. In that limited field of non-infected surfaces with a bleeding tract is arterial, it would be a very desirable procedure.

Dr. ROSA WISS, Meridian, Miss.—By having a pair of sterile rubber gloves in my bag I once saved a woman's life. I was called suddenly to deliver her of her twelfth child and found her all alone. Spontaneous delivery was very rapid, and immediately following a stream of blood as large as my wrist poured from her uterus. I knew that if that flow continued for a few minutes the patient would die. I remembered that I had my gloves, so I put them on and introduced my hand into the uterus, keeping the other on the abdomen to make pressure. I kept them in that position until I succeeded in stopping the hemorrhage. I sat there in that position for two hours, but the woman came through all right, and is alive to-day.

Dr. EFFA V. DAVIS, Chicago—I desire to speak in favor of the instrument shown to-day. We all draw our conclusions largely from our own experience, and in twelve years of active obstetric practice I have seen very few postpartum hemorrhages, consequently I have a great deal of confidence in prophylaxis. The packing of gauze is such a very difficult procedure that other things which are more easily done should be considered first. In prophylaxis, simply holding the uterus at the birth of the child is not always a sufficient safeguard. One source of hemorrhage is a long, tedious birth, causing inertia of the uterus. Chronic endometritis, leaving a partially adherent placenta, is often another element. If we think of these things before delivery they will be of service. It is unwise to keep the subject of packing the uterus too prominently before us and to the exclusion of all other things. The obstetric work of the world is not done by the expert obstetrician, but by the busy general practitioner, who can not carry all these instruments all the time. The introduction of gauze over an unclean vulva and unclean bedding is a matter not to be overlooked. It is a procedure to be looked on with a great deal of fear and trembling in the hands of the general practitioner, who is often so illy prepared to do obstetric work. Packing the uterus is not the only thing, nor the first thing to do. We still hear of deaths from puerperal sepsis, and puerperal sepsis following the postpartum hemorrhage is in many instances the element which produces a fatal result, as the anemic state of the patient leaves her in the poorest possible condition to resist infection.

Dr. GRANVILLE RYAN, Des Moines, Iowa—Dr. Davis' point is too often overlooked, i. e., the matter of packing the uterus without having everything sterile. I have had a number of very severe cases of postpartum hemorrhage, but I have never packed a uterus, nor have I lost a case, nor had an infection. I always have normal salt solution and plenty of sterile water. I douche with the normal salt solution just as quickly and as hot as it can be applied. In addition I give strychnin and stypticin hypodermically and perform hypodermoclysis if necessary. I am very careful to antisepticize my hands and the vulva, of course. My experience has been that we too often forget or neglect to look into the history of the case to ascertain whether or not the patient is a bleeder. It is very necessary that that should be done. And, above everything else, we owe it to our patients to have a complete armamentarium and be ready for any emergency.

Dr. V. M. SNOWALTER, Point Clear, Ala.—The advocacy of tamponade is unscientific in conception and impractical in application. I may not possess the obstetric skill of others, but I can recall, from memory, fifteen patients with postpartum hemorrhage in the last fifteen years, and, thanks to the painstaking instruction I received from my old preceptor,

Dr. Owen of Mobile, I have never lost a case. In the cases where the blood flows like water from a pump you have not time to do anything except to put one hand into the uterus and place the other on the abdomen to excite contraction of the uterus. I always have an abundance of sterile water and salt solution prepared. I have never yet had the privilege of testing the value of prophylaxis because, as a rule, I do not see my patient until within thirty minutes of the time when the child is born. I do not believe that any man can on purely scientific grounds prove that tamponade is practical.

DR. R. W. HOLMES—The discussion has been largely on the treatment of postpartum hemorrhage. No one feels more than I do the value of prophylaxis in this condition, but every text-book of to-day makes positive, sweeping statements that are far from being true. They say that prophylaxis can eradicate postpartum hemorrhage entirely. That is impossible. We all should have a standard as to what is a normal blood loss. A woman who loses six ounces or more of blood should be considered to have postpartum hemorrhage, which includes 10 per cent. of women at least; but, fortunately, it is only 1 in 200 in which the hemorrhage is of any moment; and only 1 dies in 1,000 or 2,000. But the profession must learn that postpartum hemorrhage is one of the most frequent complications of labor, far more frequent than the complications of the first and second stage. The Credé treatment is recommended after twenty minutes, but in 60 to 75 per cent. of the cases a Credé can not be done after twenty minutes because the placenta is already out of the uterus. Credé treatment means the forcible separation and expulsion of the placenta from the upper uterine segment. As to adrenalin, the manufacturers would not recommend its use in the uterus; one death is reported following its use; its internal administration does not concern us here. Saenger recommended that ferrotannin be used; it is both styptic and, to a small degree only, an escharotic. Glutol is another, and there are many more substances which promote clotting. Any one who has put a tampon in the postpartum uterus knows that there is a capillarity to the gauze. There is not entire stoppage of blood between the tampon and the mucous membrane, because after three or four hours the napkin becomes stained with serum, and when the tampon is removed it is usually saturated with blood. I distinctly said in my paper that I did not believe in putting in absolutely non-absorbent gauze. I said it should be moist, which produces a minimum amount of capillarity. The uterus contracts and forces the blood into the meshes of the gauze, and when capillarity is once started it goes on just the same as in the case of absorbent gauze, only more slowly. The subject of drainage is entirely without the scope of the paper. The day has gone by when the physician can go to an obstetric case not prepared for the work. He must have a complete armamentarium, and I am thoroughly in accord with King of Washington, who said at least fifteen years ago that any man who went to an obstetric case and did not have an armamentarium to meet the ordinary emergencies of labor should be held criminally liable. The day of the man midwife is past. There are too many of them; they should be wiped out. I think the time will come when the man who goes to an obstetric case with his forceps wrapped in the morning paper will be held incompetent to practice his profession. Any man able to do obstetric work should be able to tampon a uterus. The instrument I have presented offers the only means of tamponing the uterus quickly, and at the same time eliminates all possible sources of contamination from the gauze sliding over the vulva and vaginal mucous membrane. The last speaker voices the opinion of those who decried the tampon when Dührssen first introduced it; its adoption by practically all scientific obstetricians is sufficient attestation of its inestimable value.

Some Uses of Olive Oil.—Beside having value as a mild laxative and tonic for babies, olive oil may be found of service in dysentery, in severe diarrhea and in chronic catarrhal gastritis.—*Texas Medical News.*

DESTRUCTIVE STERILIZATION BY CATA-PHORESIS OF CANCER OF THE UTERINE CERVIX.*

G. BETTON MASSEY, M.D.

PHILADELPHIA.

The somber results of the knife and curette in the treatment of cancer of the cervix uteri are nowhere shown more distinctly than in that beautiful and monumental work of Cullen,¹ in which science has been enriched by the careful study of 141 cases operated on by master hands; seventy-three by hysterectomy and sixty-eight by curettement. Of the total number but fifteen, or about 10 per cent., were still living when the book went to press. An even more gloomy result was reported in a discussion in this Section at the Saratoga Session,² where one operator was quoted as saying that he had operated on 482 cases of cancer of the cervix, of which but two were living.

From experimental studies of the autoinfectivity of cancer, notably summarized in a chapter of the work mentioned, it is evident that this small percentage of cures in operable cases may be due in part to a reimplantation of the growth in the cut edges. This has been partially provided against by the Byrne method of cauterization by the galvanocautic knife, and more recently by the electric cooking process of Skeene, revived by Downs. While the latter process is somewhat clumsy, and difficult of application through the vagina, owing to the large instruments and great heat required, it is evident that both methods are distinct advances in the treatment of cancer of the cervix by a probable elimination of operative infection.

A far more thorough sterilization is, however, possible by the use of the electrochemical method advocated by the writer for some years, for by this method no preliminary opening of the lymph and blood channels, with possible instantaneous admission of cancer cells, is required, the growth being destroyed and sterilized *in situ*, and the sterilization then carried to any desired depth and in any desired direction by small, easily-handled instruments, with complete protection of the external parts from accidentally straying force, and without appreciable heat production.

A powerful electric current is employed in this method for the development, within the substance of the growth, of nascent oxychlorides of mercury and zinc, from a union of electrolytically freed oxygen and chlorine with the mercury and zinc of an amalgamated electrode. These nascent salts thus produced during application are radiated in all directions by the continued flow of the current, devitalizing the protoplasm of the neighboring cells, particularly the better conducting lowly vitalized malignant cells, and the outflow may be governed and directed by the operator until both the center and the periphery of the growth are devitalized and sterilized, the destroyed tissues assuming a whitish-gray aspect.

The time required for the total destruction of an average cancer of the cervix varies from a half hour to two hours, with a current of 500 to 600 milliamperes, the patient being under a general anesthetic, as for a major operation. In certain early stages of malignant disease of the cervix the same results may be accom-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Cancer of the Uterus, T. S. Cullen, D. Appleton & Co., New York, 1900.

2. THE JOURNAL A. M. A., July 26, 1902.

plished by several prolonged applications of 150 to 200 milliamperes, which may be borne without an anesthetic. The immediate results of a thorough devitalization and sterilization of such a growth are the arrest of pain, hemorrhage and odor; and the slough produced is separated by the process of Nature in from ten days to three weeks. The bloodless destruction of the apparent portions of the growth do not, however, exhaust the full value of this application, for beyond the limit of absolutely destructive action there will be produced by a prolonged application a radiating zone of partial impregnation with the mercuric salt of sufficient strength to devitalize malignant cells, while the normal tissue elements are only irritated. It is this zone of sterilization that makes the value of this method absolutely unique, though the readiness with which the immediate area of necrosis is produced and directed at will is alone sufficient to attract the attention of the surgeon.

DETAILS OF THE OPERATION.

It is probable that the current required in a major application of mercuric cataphoresis in a case of cancer of the cervix may be obtained from the 110-volt Edison mains, but I have preferred to use a somewhat greater voltage, about 160 volts, obtained from specially built carbon-zinc-acid batteries of a total of about eighty cells. Two thirty-cell and one twenty-cell battery are connected in series to obtain this number. The batteries must be in the best order, freshly amalgamated, and with fresh fluid. The only other pieces of apparatus required are a good meter and controller adapted for the control and measurement of the large current used.

The negative dispersing pad on which the patient lies is placed on the operating table, which is preferably of wood to prevent straying of the current, covered with some material to make it slightly yielding to the shape of the patient's back. This pad is composed, from below upward, of a rubber sheet, on which is placed a lead plate as large as the patient's back, connected with the negative pole of the battery, and over the lead plate a very thick absorbent pad composed of nine or ten layers of heavy cotton material thoroughly saturated with warm water. Care must be taken that the lead plate is entirely covered so that the patient, who lies on it, does not come in contact with the metal.

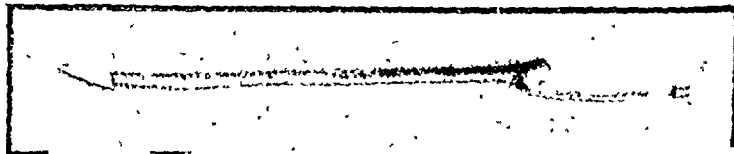
On the pad the patient is placed in the dorsal position with the legs supported by a leg holder. After the patient is in position a deflated Kelly pad is slipped beneath the buttocks to prevent too short a circuit for the return current in this situation, and to provide drainage for the waste water used in keeping the vagina cool.

On a table at the side of the operator is placed a tray containing several appropriately shaped zinc electrodes with their tips coated with mercury, a glass cup containing dilute sulphuric acid to facilitate the renewal of the mercury on the electrodes, and another with several ounces of liquid mercury. The progress of the work is best observed by a miniature lamp and a Fergusson speculum when the electrode is removed from time to time, and these articles should, therefore, be at hand.

The best result in the cataphoric destruction and sterilization of cervical cancer is obtained from the mixed electrolytic salts of zinc and mercury, rather than from the pure mercuric salts from gold-mercury electrodes. This is partly due to the difficulty in controlling a liquid electrode surface in this situation. The accompanying illustration shows the shape of the zinc-mercury instru-

ment that I have found to be most convenient for the purpose. You will observe that it is heavily coated with non-conducting materials fused on it except at the active surface.

The apparatus having been connected up and tested, the patient is etherized and placed on the table, with careful adjustment of the pad, and the operation begun by inserting the point of the electrode into the growth and turning the current on gradually until the desired strength has been attained. The operator's finger should be kept near the seat of action, and when an uncomfortable rise of heat is observed the rubber tip of a fountain syringe should be inserted within the vagina alongside the finger and a little cold water allowed to flow. This effectually keeps down the heat otherwise developed when so great a current is concentrated at such a small point as a single electrode. At the end of fifteen or twenty minutes the current should be turned off, the site of action examined, and a freshly amalgamated electrode placed in such new position as desired. At the end of a time varying from a half hour to two hours the whole of the growth will be destroyed and a moderate region beyond sterilized. The completeness of the destructive action is apparent on visual examination, but much more thoroughly attested by the changed conditions indicated to the examining finger, for it is characteristic of a cancerous growth under this process to become progressively soft during the flow of the chemical, and the test of a complete



softening of the indurated areas is the signal for the termination of the operation.

The after-treatment of the patient is merely expectant, but little pain being felt and this only during the first twelve hours.

The writer does not present this method to the profession as a cure-all by any means, but he does believe that it is the most effectual method for the treatment of the early stages of all varieties of malignancy in this situation, unless the recent attempts to apply radiotherapy within cavities can be improved; and it is evident that when applied in inoperable cases it will not only give a fighting chance of ultimate cure, but, by reason of the immediate relief it affords to the hemorrhage, pain and odor, it will become a valuable palliative and prolong life when a cure is impossible.

DISCUSSION.

DR. A. M. HAYDEN, Evansville, Ind.—I wish to know what results Dr. Massey has had; whether he has any statistics and any apparent cures, how long they have lasted, what stage they were in and whether they were diagnosed before the appearance of the offensive odor from the uterus.

DR. H. E. PEARSE, Kansas City, Mo.—I wonder why, in place of investigating this matter during the past years, the profession has always given it the very coldest welcome and the warmest opposition. In reality, it is a perfectly logical procedure. I tried it in three cases, and all three were failures, but I have not abandoned hope, because for fifteen years it was my pleasure to see case after case go to the surgeon for relief by operation, and it was my dismay to see every one of these cases come back to me, as a general practitioner, and seek for the relief that surgery could not give them. During five years I have seen an unlimited line of failures in

the operation for radical cure of uterine cancer. I now have one perfectly healthy case after nine years of postoperative life. We should look on this work of Dr. Massey's with at least a little bit of expectancy, and I hope he will tell us what he has accomplished.

DR. G. B. MASSEY—The cataphoric method for the destruction of cancer has been used by me in as many as 63 cases in all portions of the body, but I have only had the opportunity to employ it in 7 cases of cancer of the cervix, and only 4 of these were treated exactly as described in the paper. There has been but one absolute and final success of the 7 treated—a case that had not been operated on previously, and in this case the patient remains well after the lapse of six years. All the rest were recurrences after knife operations, and, with the exception of one case that proved fatal from peritonitis within six days, they were all greatly benefited for a time, usually dying ultimately from a metastasis that must have been implanted before the application. But, whether the patient is suffering from metastasis or not, it is my conviction that this method offers the best chance for either the relief or cure of cancer in this situation.

EMPHYEMA OF THE FRONTAL SINUS.

[Through inadvertence, the discussion at the New Orleans session on the paper of Dr. C. A. Thigpen, Montgomery, Ala., was omitted from THE JOURNAL, Nov. 14, 1903, page 1209. It was as follows:]

DISCUSSION.

DR. ROBERT C. MYLES, New York—The classic operation Dr. Thigpen performed is, in my opinion, always the proper one in this class of cases. He first provided for permanent drainage by removing the anterior end of the middle turbinal, some of the ethmoid cells, and also probably a part of the nasal process of the maxillary bone.

DR. GORDON KING, New Orleans—I want to emphasize the necessity in these chronic cases of a radical method of operation. I think all of us have had very disagreeable experiences very often of having these cases dragging on indefinitely by any method we may pursue. When the mucous lining of the cavity has become degenerated, sometimes forming polypoid masses that may almost occlude the cavity, it is necessary to scrape out the cavity. In those cases I do not see any other course of treatment to pursue except the radical method of opening the sinuses widely and then obliterating the cavity, whether you leave the cavity to become obliterated by a slow process of granulation, or close it up immediately and allow it to fill up from the inside, with the establishment of intranasal drainage. Even that is sometimes unsatisfactory, but not so unsatisfactory as the open method where you pack it as an external wound. Those cases are extremely unsatisfactory in their course. In the first place, it takes eight or nine months for them to finally heal up, and you have not only a depression but also an unsightly scar in a prominent place. A method with which I have had considerable experience has in a measure overcome that defect. It is the Ogston-Luc method, by which you open the cavity, clean it out and close it up, and the wound will heal beautifully, even after a large opening. It will go on very nicely for ten days or two weeks, however, and then it may again become obstructed. That takes place before the postoperative obliteration of the cavity. You are then forced sometimes to reopen the cavity and treat it externally. On this account some observers have lost confidence in that method. To overcome the difficulties an operation has been perfected which I think is satisfactory. There is a deformity of the face left, but with paraffin injections I think that can be overcome. The cavity is obliterated by the transplantation of a periosteal-cutaneous flap into the wound. The cavity is opened widely; it is scraped out thoroughly, no attention is paid to the intranasal drainage, and the wound is sutured afterward, except the external part of the wound. Obliteration of the cavity takes place immediately and recurrence is almost impossible. The usual course of these cases is an uneventful recovery in two or three weeks. I favor a modification of that method, which solves the question of drainage. That is simply complete obliteration of the cavity

and intranasal drainage combined, so that the entire wound can be sutured up and drainage can be secured through the nose. There is no danger of the formation of a fistula. I have adopted that recently in a double empyema where the cavities were enormous and opened into one chamber. The process had gone on to the destruction of sight on one side before I saw the case. Healing took place in ten days with no bad features whatever following. That I believe to be one of the best operations we have in these cases.

DR. OTTO T. FREER, Chicago—In Killian's recently perfected operation for the complete obliteration of the frontal sinus in cases of chronic suppuration, he removes the entire front wall of the frontal sinus with the exception of a slender bridge of bone whose lower border is the supra-orbital margin. In addition he resects the frontal, also called nasal, process of the superior maxillary bone, making a broad opening as far back as the lacrymal bone, as far toward the center as the nasal bone and as far upward as the lower margin of the bridge mentioned. This gives most convenient access to the outlet of the sinus, the frontal and anterior ethmoidal cells and middle turbinate body. Killian also removes the orbital floor of the sinus so that the orbital fat may rise to help fill the hollow left by the obliterated sinus and the deformity thus becomes less than if only the front wall were removed. Killian's results have been perfect and his photographs show very slight disfigurement. I have done the operation on the cadaver only, but have been impressed with the ease of its performance, its precision and the easy access obtained to the ethmoidal cells both anterior and posterior. It is also possible to reach the sphenoidal sinus through the opening left by the removal of the frontal process.

DR. ADOLPH O. PFINGST, Louisville—I wish to commend the method of Kunst and Luc, mentioned by a preceding speaker. I believe the operation described by Kunst should be done to get the best drainage. At first it struck me that drainage would not be proper in these cases. It has been suggested to introduce drainage tubes, but in the limited number of cases which I have treated I did the operation without drainage tubes. In two cases operated on by this method there has been no recurrence. There has been considerable work done on this subject in late years, but we have not really done enough along this line. Most of us do not care to see these cases come to us because at the best they are ungrateful in their results. We ought to give the subject more attention.

DR. GEORGE L. RICHARDS, Fall River—The question of deformity must not be too lightly overlooked. Deformity in the United States and deformity in Germany are two very different things. I have seen cases in Jansen's clinic with eyes looking in different directions; if such cases were to occur in this country they would be an unpleasant advertisement. Sometimes it may be just as well to be a little less radical and take a little longer to do the radical operations recommended by some of the German operators. You can put in a drainage tube and all that, but the opening into the nose usually sooner or later closes. You can maintain the external opening for a long time by putting a small silver or gold tube in the wound. I have had dentists make them with a little rim so they can not slip in. Cases sometimes show bulging from pus after apparent cure and the wound can be reopened if necessary rather than to do at first the very radical operation. The tube can be kept in almost indefinitely when the operation is done above the inner angle of the eye, and finally it may be removed and the hair of the brow grows over the wound so that the scar is almost imperceptible.

DR. H. DUPUY, New Orleans—Dr. Lake of England has recently recorded three fatalities in his own practice where he had completely closed the wound, although he had free irrigation through the nose. It seems that the diploë of the frontal bone is very likely to receive infection, and by this means in two of his cases infection was carried to the brain. A recent experience in a case I have just reported to our state society has inclined me to the method of incomplete closure of the wound. Presuming there has been made a horizontal incision to the eyebrow, then after the operation I put in two or

three sutures from the outside, leaving an opening along the median line through which the packings may be introduced and drainage secured. In less than six weeks, in the case of a small frontal sinus, it was completely closed by granulations.

DR. E. FLETCHER INGALLS, Chicago—I reported a case not long ago in which I succeeded in curing suppuration of the frontal sinus by a 4 per cent. solution of protargol, after the suppuration had continued for ten years. The man had been under my care for some time, but he had refused operation. By antiseptics we can frequently cure these cases without operation. In the cases in which I have made a radical operation I have put in a drainage tube from above; this tube has a flange at the upper end to prevent it from slipping down, and is somewhat funnel-shaped at its lower half so it will not work up. In one case where the posterior wall of the frontal was found completely destroyed at the time of operation I kept the external wound open between the eyebrows by a short rubber drainage tube flanged at both ends. This enabled the patient to cleanse the cavity easily. She refused to have the wound closed, although there was free drainage through the nose. The last I saw of her, about two years after the operation, the wound was still open. It is well to leave the external opening in such cases until we are sure suppuration has ceased.

DR. C. A. THIGPEN, Montgomery, Ala.—It was not my intention to dwell on the various operative procedures for frontal sinus disease. With regard to the operative technic the more I have operated the more conservative I have become, and before doing any external operation, the anterior portion of the middle turbinate should be removed and the probe introduced into the sinus to ascertain its upper boundary; from this point I open the cavity and drill downward and backward into the nose. Special attention should be directed to the nasal process of the superior maxillary bone, drilling away as much of it as possible, as advocated by Dr. Myles. Since following this teaching I have not failed to relieve my cases, and thus forego the necessity of a more mutilating operation.

THE CULTIVATION OF TRYPANOSOMA BRUCEI.

A PRELIMINARY NOTE.

(From the Hygienic Laboratory, University of Michigan.)

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At the New Orleans meeting of the American Medical Association we presented before the Section on Pathology and Physiology the results of our work on the cultivation of the ordinary rat trypanosome, *Trypanosoma lewisi*. The paper itself has appeared since then in the *Vaughan Festschrift*.¹ The results obtained mark a distinct advance in our knowledge of the animal parasites since this was the first time that a pathogenic protozoön was successfully cultivated and its relation to the disease demonstrated by inoculation of pure cultures. At that time we expressed the belief that the methods employed would probably be found to be applicable to other trypanosomes, and this view we have been able to confirm with reference to one of the most important organisms of this group, namely, *Trypanosoma brucei*, the cause of nagana or the tsetse-fly disease of South Africa.

The nagana material necessary for this work was kindly supplied us by Dr. H. Wolferstan Thomas, late fellow at McGill Medical College and now of the Liverpool School of Tropical Medicine. We take this oc-

casión to express our grateful appreciation of the courtesy thus extended. It should be further stated that this material is lineally descended from that brought to England from Zululand in the fall of 1896 by Dr. Waghorn, and therefore it is the same as that employed by Kanthack, Durham and Blandford, by Plimmer and Bradford, by Laveran and Mesnil and other European workers, with the exception of Martini.

It has been shown that the *Trypanosoma brucei* dies out very rapidly in the cadaver, sometimes within a few hours, and that this occurs even when the blood is transferred to a tube. The longest that any one has been able to keep the parasite alive *in vitro* has been about six days. Under these conditions no evidence of multiplication has been observed. The virulence of the blood when kept in tubes is preserved longer than when the blood remains in the cadaver, but, only exceptionally, has it been found to persist up to the fourth day. It seemed as if this organism was essentially an obligative parasite and as such incapable of existing outside of the living animal.

The methods which we have employed are the same as those used for cultivating the rat trypanosome and for that reason need no description at this time.

The culture medium employed in all of our work was ordinary nutrient agar, containing variable amounts of defibrinated rabbit blood. In the water of condensation, which accumulates in tubes or flasks containing this medium, the rat trypanosome grows readily and luxuriantly. No difficulty is experienced in starting an initial culture of this trypanosome from the blood of an infected animal.

The nagana trypanosome does not take readily to this same medium, and a great deal of difficulty was experienced in obtaining cultures of this organism. When, however, an initial culture is once obtained, and the parasite has become used to its new soil, the subsequent cultivation is more easy.

Notwithstanding numerous modifications of our technic, all attempts to obtain cultures from the first twenty-five nagana animals failed. In the inoculated tubes the trypanosomes would usually die out on about the 5th to the 7th day; exceptionally they were found to be still alive on the 9th, 10th, 11th, 14th, and even on the 18th day. In these cases only a few survivals were left, most of the parasites having undergone degeneration and died. When the culture tubes were placed in the incubator the trypanosomes died out in two or three days.

The virulence of the fluid in the culture tubes was found to disappear usually on about the 4th or 5th day. In two instances, however, the surviving trypanosomes were found to be infectious on the 9th and on the 10th day. The infection in these instances was clearly due to the few cells which survived, since no evidence of multiplication could be detected. Frequently, such material, though containing living trypanosomes, failed to infect animals; a fact which goes to show that attenuation of the nagana parasite is possible. This we have been able to definitely establish with the pure cultures subsequently obtained.

From the second series of twenty-five nagana animals—white mice, rats and guinea-pigs—we succeeded in obtaining four positive cultures from as many different animals. The first of these, Culture A, was started August 27, and since that time has been carried through six successive generations *in vitro*. At the present time, November 12, it is in its seventh generation. In other words, this culture has been maintained under artificial

1. Contribution to Medical Research dedicated to Victor Clarence Vaughan, Ann Arbor, Mich., 1903, George Wahr, p. 549.

conditions for 77 days, and there is no apparent reason why it should not be cultivated indefinitely.

Culture B was started September 7, and during the next 52 days was carried through two generations. The third generation has as yet shown no growth, but probably will.

Culture C was started September 10, and is at the present time (63 days) in its third generation and is doing well.

Culture D was inoculated September 12, and the original tube contained living trypanosomes as late as the 45th day. A second generation, however, failed to take, probably owing to the feeble condition of the parasite.

It is difficult to furnish any satisfactory reason why only four animals out of fifty examined should have given positive results. There are obviously injurious substances present in the blood which tend to prevent the growth of the trypanosomes and eventually cause their destruction. Our efforts at present are directed at ascertaining the nature of these poisonous substances and to find means whereby this action may be counteracted.

When the nagana blood is planted on blood agar most of the trypanosomes rapidly die out; so much so, that an examination may fail to show a single living form and

the latter can not be cultivated on a medium containing less than 1 to 1 of blood.

This fact may be utilized to separate the two trypanosomes when present in mixed infection in a rat. When a rat which contains *Tr. lewisi* is infected with *Tr. brucei*, both parasites appear in the blood and can be recognized, as Koch pointed out 5 years ago, by examining the blood. By injecting blood showing mixed infection into a dog, Koch was able to separate the nagana parasite from that of the rat. By means of our cultivation method, it is possible to plate out, as it were, the two organisms and obtain these in pure culture. The blood of the rat showing mixed infection when planted on blood agar (1 to 2), will give a rich growth of only the rat trypanosome, since the nagana parasite is unable to grow on this medium. If at the same time a portion of the blood is inoculated into a mouse or animal other than a rat, the nagana trypanosome will develop and eventually cause death. From the blood of this animal, by inoculating a 2 to 1 blood agar medium, it may be possible to obtain a pure culture of *Tr. brucei*.

The *Tr. brucei* as found in the blood of an animal is exceedingly virulent and an extremely minute amount of such blood is sufficient to cause the death of an infected animal. The result is much the same whether the para-

TABLE SHOWING RESULTS OF INOCULATION OF CULTURES DEVELOPED AT 25 C.

	Culture and Generation.	Blood-agar.	Age of Culture.	Date of			Time Before Death.
				Inoculation.	Appearance of Trypanosomes.	Death.	
Mouse 3.	A iii.	2:1	7 days	Oct. 5.	Oct. 14.	Oct. 16.	11 days.
Rat 1.	"	"	"	"	"	"	"
Control mouse 9.	A iv. a flask	3:2	9 days	" 14.	Oct. 19.	" 22.	11 "
Control mouse 10.	"	"	"	"	" 19.	" 21.	7 1/2 "
Mouse 1, 2d injection.	"	"	"	"	" 21.	" 23.	7 "
Mouse 2, 2d injection.	"	"	"	"	" 19.	" 24.	9 "
Mouse 16, 2d injection.	"	"	"	"	" 21.	" 23.	9 1/2 "
Mouse 11.	A v. a flask	"	6 days	" 21.	" 26.	" 29.	8 1/2 "
Rat 2.	"	"	"	"	" 26.	" 29.	7 1/2 "
Mouse 6.	C ii.	1:1	12 days	" 11.	" 16.	Nov. 2.	11 1/2 "
Mouse 3, 2d injection.	A iv.	"	18 days	" 23.	"	Oct. 16.	8 "
Rat 3.	A v. b flask	"	10 days	Nov. 4.	"	Nov. 8, a.m.	Recovered. 3 1/2 days.

thus give rise to the impression that the culture is a failure and lead to the discarding of the tubes. And yet, a few surviving organisms are present and succeed in adapting themselves to the changed condition, and from these the culture begins. The whole phenomenon is very suggestive of a survival of the fittest.

The cultures of *Trypanosoma brucei* may be developed at room temperature, or at 25 C., or even at 34 C. At room temperature the growth is slow to come on, and, for that reason, the cultures will remain alive the longest. We have repeatedly found such cultures alive as late as the 45th day. When developed at 25 C., an excellent growth may be obtained in from 7 to 10 days, and may persist for several weeks. On the other hand, at 34 C. growth is possible, but the cultures die out in about a week. It may be stated at this point that when fully developed and actively motile cultures are placed at 34 C. they rapidly lose their virulence and die out in a few days.

The rat trypanosome, as already stated, grows readily on the blood agar medium and can be isolated from animals in nearly every trial. In this respect it will be seen that it differs materially from the nagana trypanosome, which only exceptionally yields to culture. While the former grows readily on media containing blood and agar in the proportion of 1 to 2, 1 to 5, and even 1 to 10,

sites are very numerous or so few as to be scarcely detected under the microscope. From this it would appear that the virulence of *Tr. brucei* is a fixed and constant quantity.

A study of the artificial cultures, however, shows that the virulence of this organism is variable and that it can be altered at will. This is an exceedingly important fact, since by means of attenuated cultures it may be feasible to secure the much-desired immunization.

The intraperitoneal injection of virulent cultures of *Tr. brucei* causes death in mice and rats in about 7 or 8 days, exceptionally as late as 11 days. When it is remembered that these animals usually die in from 3 to 5 days after the inoculation of virulent blood, it will be seen that these cultures are already somewhat attenuated. The retarded death is not due, as might be supposed, to the injection of a small number of trypanosomes, since the cultures injected are extremely rich in actively motile parasites. In a few instances, our mice and even rats died in 3 1/2 and in 5 days.

The following table shows the results obtained by inoculating cultures developed at 25 C. These results prove that the organism cultivated is in reality the nagana trypanosome. Moreover, since these inoculations are made with pure cultures they furnish the final evidence, if it be needed, that this trypanosome is the cause

of nagana. The trypanosomes which appear in the blood of the infected animals are in every respect the same as those met with in the animals infected with nagana blood.

When a virulent culture, developed at room temperature or at 25 C., is placed at 34 C., for a day or two it becomes less active and non-infectious. The loss of virulence is not due to the death of the trypanosomes, for these may remain alive and apparently uninjured for several days. Eventually, however, they develop numerous globules within the cells, change into spherical involution forms and finally die out.

Our experiments on immunizing animals against nagana are not far enough advanced to warrant making any definite statement. An inspection of the table will show that in one experiment two control mice, Nos. 9 and 10, died in 7 and 7½ days, while three animals which received a single injection of living, but non-virulent trypanosomes, died in 8½, 9 and 9½ days after infection. This would indicate that a slight protection had been afforded by the single injection. Of course, more definite experiments will be needed before positive conclusions can be drawn. Such work is at present being carried on.

The cultivated *Tr. brucei* is readily distinguishable from that of *Tr. lewisi*. Thus, while the latter has almost homogeneous contents, the former is characterized by the presence of two or more bright, highly refracting globules, usually placed near the anterior or flagellar end. At times, the number of these globules is increased, as when the culture is kept at 34 C. In size these globules may attain one micron.

The *Tr. lewisi* varies considerably in size. Some forms are found which are not more than one or two microns long, not including the whip. Others are about the diameter of a red blood cell, while usually they average about 15 to 20 microns.

The *Tr. brucei* shows less variation in size and averages 15 microns in the living condition.

The motion of the two organisms is entirely different. Thus, while the rat trypanosome is frequently seen darting about in an almost straight line and with great speed, the nagana parasite usually shows only a slow, wriggling motion and scarcely departs from its place. The wave motion passes slowly along the thick undulating membrane and imparts the appearance of spiral rotation to the entire cell.

The most striking difference is perhaps seen in the appearance of the colonies or aggregates. The *Tr. lewisi* forms aggregates of spindle-shaped forms, consisting at times of many hundreds and even of thousands of cells. The cells composing these masses show a slight swaying motion and their whips seem to be directed centrally. The *Tr. brucei* rarely forms masses of more than 10 or 20 cells. The individuals are long, narrow and show the peculiar writhing motion. The flagella are directed outward and the appearance of the whole may be compared to the snakes on a Medusa head. The stellate group with the bright, refracting globules within the cells, suggests a jeweler's "sun-burst."

This paper is intended to briefly summarize the main facts arrived at in our studies up to the present time. The full details may be expected in a later publication.

Physicians, as a rule, do not write enough about their experiences. They have valuable practical knowledge which it would benefit themselves and the profession to publish. But they wait, because they think it necessary to write a long, big-worded article when really a short letter or description would be of more interest.—*Medical Summary.*

AN ANALYSIS OF FIFTEEN HUNDRED CASES OF TUBERCULOSIS

DISCHARGED FROM THE ADIRONDACK COTTAGE SANITARIUM FROM TWO TO EIGHTEEN YEARS AGO.

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In a disease of so relapsing a nature as tuberculosis the inexorable test of time is rarely applied in the study of the results obtained by any form of treatment. The object of this research has been to apply this crucial test to the permanency of the beneficial effects which are undoubtedly obtained by the sanatorium treatment of pulmonary tuberculosis. The results of treatment in this disease vary directly with so many factors that it is exceedingly difficult to compare the results obtained by different observers. The use of different classifications, and in some instances the different interpretation of the same classification render any comparison a difficult task. Take, for example, the terms "apparently cured" and "cured." One observer applies them to patients who have gone a few months without symptoms and whose physical signs, if at all abnormal, are indicative of a healed lesion. Another thinks the time should be six months, a third one year, and possibly interprets the physical signs differently. It is to be hoped before long we shall have in America one classification adopted by the various sanatoriums. The classification adopted by Dr Trudeau has been retained in these statistics, not because he claims it to be entirely satisfactory, but because it is the one which has been applied from the first and throughout the past eighteen years to the cases on which this study is based. The classification is as follows:

Incipient Stage.—Slight local, with little or no constitutional involvement.

Advanced Stage.—The localized disease process extensive or in an advanced stage, or slight local pulmonic invasion with rather marked constitutional involvement or with complications.

Far Advanced Stage.—Marked signs of pulmonic disintegration with marked constitutional symptoms.

Improved Condition.—Physical signs showing process less active, or general health improved with symptoms relieved or abated.

Arrested.—No activity in process in lungs, with absence of fever and other constitutional symptoms.

Apparently Cured.—Abnormal physical signs absent, or if present only slight and indicative of healed lesion. Absence for some months of pyrexia and of sputum or of sputum containing tubercle bacilli.

Perfectly Cured.—Abnormal physical signs absent, or if present only slight and indicative of healed lesion. Absence for two or more years of pyrexia and of sputum or of sputum containing tubercle bacilli.

In order that the results of the treatment by the fresh air and rest cure at the Adirondack Cottage Sanitarium may be fully understood, it is necessary to consider for a moment the difficulties under which the work was begun. When the institution was first started, Dr. Trudeau, owing to popular prejudice, had great difficulty in persuading patients to enter, and as a result many cases entirely unsuited for sanatorium treatment were admitted. A glance at the relative proportion of incipient, advanced and far advanced cases admitted during the first few years will make this clear. Of the first 500 patients 21 per cent. were

in an incipient stage, 48 per cent. in an advanced, and 29 per cent. in a far advanced stage. During the year ending Nov. 1, 1902, 165 patients were discharged. Of these on admission 31 per cent. were in an incipient stage, 46 per cent. in an advanced and 3 per cent. in a far advanced stage. Had such figures obtained during

untraced. These untraced cases compose 43 per cent. of the first 500.

A.—*Incipient Cases.*—It has been long recognized that the curability of pulmonary tuberculosis depends directly on the stage of the disease. This has been found to hold true among these cases. The 103 incipient cases

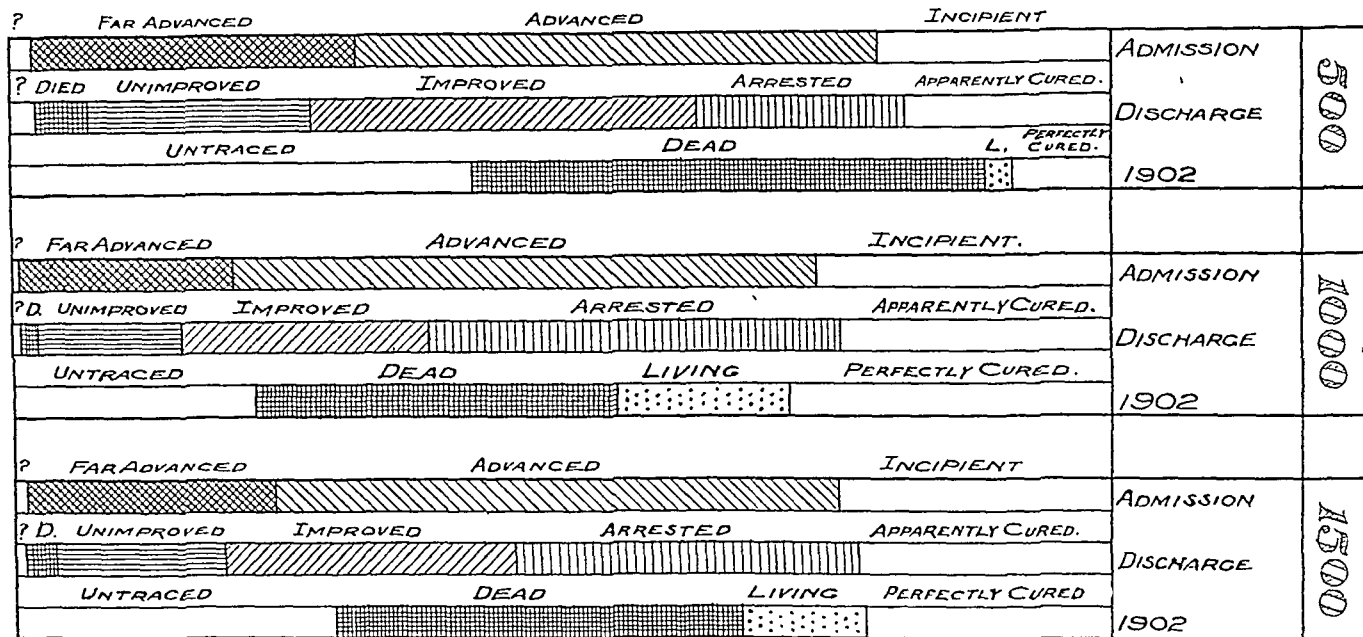


Chart 1.—Graphic representation of Tables 1, 2 and 3. The space marked ? indicates doubtful cases. The space marked "living" includes chronic and relapsed.

the first years of the institution the results would no doubt be very different.

I.—RESULTS OBTAINED IN 500 CASES DISCHARGED FROM EIGHT TO EIGHTEEN YEARS AGO.

The first 500 cases were admitted during a period extending from May 12, 1885, to July 1, 1893, a little

were discharged as follows: Apparently cured, 73 (71 per cent.); arrested, 12; improved, 12; unimproved, 6. At the present time there are: Well, 23 (22 per cent.); arrested, 1; relapsed, 2; dead, 26; untraced, 51. Of the 73 apparently cured cases 18 are well, while 3 of the 12 arrested, 2 of the 12 improved and none of the 6 unimproved are well. It is interesting to note among the in-

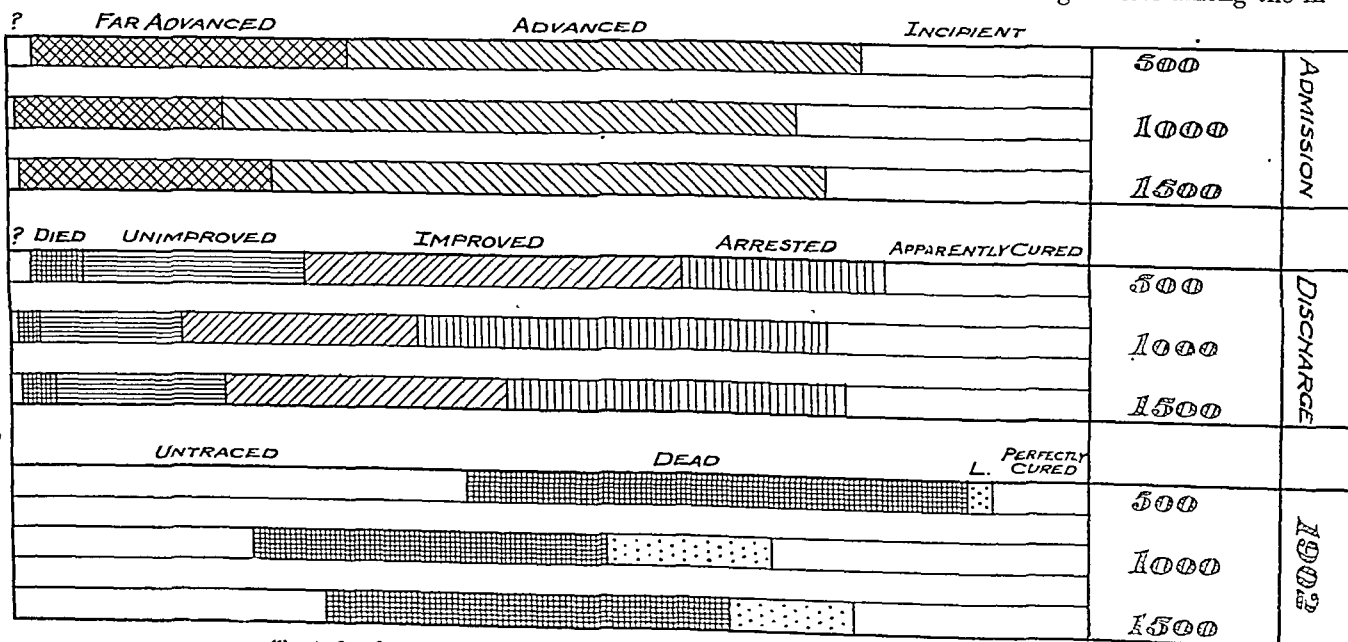


Chart 2.—Graphic comparison of condition on admission, on discharge, and in 1902.

more than eight years. The last of the patients was discharged nine years ago. Owing to the fact that it has not been possible until recently to trace the patients systematically many of the early cases have remained

incipient cases that at the present time about the same percentage of cures are obtained from those discharged apparently cured, arrested and improved. Twelve of the 73 cases discharged apparently cured, 2 of the arrested,

8 of the improved and 4 of the unimproved are dead. The untraced cases are distributed according to the condition on discharge as follows: Apparently cured, 40; arrested, 7; improved, 2; unimproved, 2.

If, however, for a moment we exclude those cases that have not been traced, we find that 44 per cent. of the incipient cases that have been traced are well, 2 per cent. arrested, 4 per cent. relapsed and 50 per cent. dead. Of the traced incipient cases discharged apparently cured, 54.5 per cent. are well, of those arrested 60 per cent. (out of 5 cases), of the improved 20 per cent. Many of the untraced cases are undoubtedly dead, and while the percentage of cured cases would in all probability not reach 44 per cent., still it would be considerably more than 22 per cent.

B.—*Advanced Cases.*—Forty-eight per cent. of these 500 cases were in an advanced stage of the disease. Of the 165 cases discharged during the last year 64 per cent. were advanced, showing in the number of advanced cases admitted a much greater increase than in the number of incipient cases. Without question a large number of

rested, 19; improved, 41; unimproved, 70; dead, 16. At the present time there are: Well, 2; arrested, 1; chronic, 1; dead, 90 (62 per cent.); untraced, 52. The 2 cases now well were discharged as unimproved. Of the 19 arrested cases 12 are dead, while 22 of the 41 improved, 40 of the 70 unimproved cases are dead. The untraced cases are distributed as follows: Arrested, 6; improved, 18; unimproved, 28. If the untraced cases are omitted it is found that 2 per cent. are well, 1 per cent. arrested, 1 per cent. chronic and 96 per cent. are dead. To find after a lapse of nine years 4 far advanced cases alive is worthy of note, and the fact that 2 have apparently recovered is most interesting (and recalls the *spes phthisica*).

D.—*Summary of Results in the First 500 Cases.*—To sum up, the condition of the first 500 cases at present is as follows: Well, 42 (8 per cent.); arrested, 7 (1 per cent.); relapsed, 2; chronic, 2; dead, 233 (46 per cent.); untraced, 214 (44 per cent.). In 11 cases the records were incomplete, and as the patients could not be traced they have not been taken into account except in the total.

TABLE I.
ANALYSIS OF FIVE HUNDRED CASES DISCHARGED FROM EIGHT TO EIGHTEEN YEARS AGO.

Condition.				Condition in 1902.											
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient.....	Ap. cured	73	70	18	25	1	1	2	2	0	0	12	17	40	55
	Disease arrested	12	12	3	25	0	0	0	0	0	0	2	16	7	59
	Disease improved	12	12	2	17	0	0	0	0	0	0	8	66	2	17
	Disease unimproved	6	6	0	0	0	0	0	0	0	0	4	67	2	33
	Total.....	103	..	23	22	1	1	2	2	0	0	26	25	51	50
Advanced.....	Ap. cured	20	8	11	55	0	0	0	0	0	0	2	10	7	35
	Disease arrested	62	26	4	6	3	5	0	0	1	1	33	54	21	34
	Disease improved	124	51	2	2	2	0	0	0	0	0	55	44	65	52
	Disease unimproved	28	12	0	0	0	0	0	0	0	0	21	75	7	25
	Died at sanitarium.....	6	3	0	0	0	0	0	0	0	0	6	100	0	0
	Total.....	240	..	17	7	5	2	0	0	1	0	117	49	100	42
Far advanced.....	Disease arrested	19	13	0	0	0	0	0	0	1	5	12	63	6	32
	Disease improved	41	28	0	0	1	2	0	0	0	0	22	54	18	44
	Disease unimproved	70	48	2	3	0	0	0	0	0	0	40	57	28	40
	Died at sanitarium.....	16	11	0	0	0	0	0	0	0	0	16	100	0	0
	Total.....	146	..	2	2	1	1	0	0	1	1	90	61	52	35
Incomplete records		11	..	0	0	0	0	0	0	0	0	0	0	11	100
Grand total.....		500	..	42	8	7	1	2	1	2	1	233	46	214	43

patients do not come under the observation of a physician until they are in an advanced stage. The 240 advanced cases were discharged as follows: Apparently cured, 20; arrested, 62; improved, 124; unimproved, 28; died, 6.

At the present time 17 (7 per cent.) of these are well, 5 arrested, 1 chronic, 117 (48 per cent.) dead and 100 untraced. Of the 20 apparently cured cases there are 11 well, while 4 of the 62 arrested, 2 of the 124 improved and none of the 28 unimproved cases are well. Two of the apparently cured cases are dead, 33 of the arrested, 55 of the improved, 21 of the unimproved. The untraced cases were as follows: Apparently cured, 7; arrested, 21; improved, 65; unimproved, 7. If the untraced cases are omitted the following figures are obtained: Well, 14 per cent.; arrested, 3 per cent.; dead, 84 per cent. Of the 13 apparently cured cases that have been traced 11, or 84 per cent., are well.

C.—*Far Advanced Cases.*—It is most gratifying to note the decrease in the far advanced cases. Of the first 500 cases 29 per cent. were far advanced, while last year the percentage was only 3. The 146 far advanced cases were discharged as follows: Apparently cured, 0; ar-

If only the traced cases are considered we find 15 per cent. well, 2.4 per cent. arrested and 81 per cent. dead.

II.—RESULTS OBTAINED IN ONE THOUSAND CASES DISCHARGED FROM TWO TO EIGHT YEARS AGO.

In order to compare the results obtained more recently with the earlier results 1,000 cases discharged from two to eight years ago have been studied. Of these patients 26.3 per cent. were in an incipient stage, showing in comparison with the first 500 cases a decided decrease in the number of far advanced cases, a material increase in the number of advanced and a decided increase in the number of incipient cases. The actual number of incipient cases increased over 31 per cent. On comparing the results of these cases with the earlier group it must not be overlooked that the earlier cases have all been discharged from eight to eighteen years, while none of the later group have been discharged more than eight, and some only two years.

A.—*Incipient Cases.*—The 263 incipient cases were discharged as follows: Apparently cured,¹ 172; ar-

1. Cases that remained at the sanitarium less than one week have been omitted, except in the tables.

rested, 71; improved, 17; unimproved, 2. At the present time there are: Well, 147 (57 per cent.); arrested, 12; relapsed, 12; chronic, 7; dead, 28 (11 per cent.); untraced, 57. Of the 172 apparently cured cases 113 (66 per cent.) are well, while 27 (38 per cent.) of the 71 arrested, 7 of the 17 improved and none of the unim-

(61 per cent.) are well, while 76 of the 276 arrested, 14 of the 137 improved, 1 of the unimproved are well. Seven of the apparently cured cases are dead, 73 of the arrested, 63 of the improved and 31 of the unimproved. The untraced cases were as follows: Apparently cured, 14; arrested, 50; improved, 35; unimproved, 15.

TABLE II.

ANALYSIS OF ONE THOUSAND CASES DISCHARGED FROM TWO TO EIGHT YEARS AGO.

Condition.		Condition in 1902.													
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient.....	Ap. cured	172	65	113	66	3	2	9	5	2	1	10	6	35	20
	Disease arrested	71	27	27	38	7	10	3	4	4	6	14	20	16	22
	Disease improved	17	6	7	41	2	12	0	0	0	0	2	12	6	35
	Disease unimproved	2	1	0	0	0	0	0	0	0	0	2	100	0	0
	Stayed less than one week.....	1	1	0	0	0	0	0	0	1	100	0	0	0	0
	Total.....	263	..	147	56	12	5	12	5	7	2	28	11	57	21
Advanced.....	Ap. cured	70	13	43	61	1	1	4	6	1	2	7	10	14	20
	Disease arrested	276	51	76	28	40	15	20	7	17	6	73	26	50	18
	Disease improved	137	25	14	10	5	4	3	2	17	13	63	46	35	25
	Disease unimproved	50	9	1	2	0	0	0	0	3	6	31	62	15	30
	Died at sanitarium.....	4	1	0	0	0	0	0	0	0	0	4	100	0	0
	Stayed less than one week.....	1	1	0	0	0	0	0	0	0	0	0	0	1	100
	Total.....	538	..	134	25	46	9	27	5	38	7	178	33	115	21
Far advanced.....	Disease arrested	32	16	2	6	1	3	2	7	2	6	17	53	8	25
	Disease improved	75	38	1	1	3	4	1	1	6	8	47	63	17	23
	Disease unimproved	82	42	1	1	0	0	0	0	0	0	58	71	23	28
	Died at sanitarium.....	8	4	0	0	0	0	0	0	0	0	8	100	0	0
	Total.....	197	..	4	2	4	2	3	2	8	4	130	66	48	24
Doubtful cases		2	0	2	100	0	0	0	0	0	0	0	0	0	0
Grand total.....		1000	..	287	29	62	6	42	4	53	5	336	34	220	22

proved are well. Ten of the apparently cured cases, 14 of the arrested, 2 of the improved and 2 of the unimproved cases are dead. The untraced cases are as follows: Apparently cured, 35; arrested, 16; improved, 6.

c.—*Far Advanced Cases.*—The 197 far advanced cases were discharged as follows: Arrested, 32; improved, 75; unimproved, 82; dead, 8. At the present time 4 (2 per cent.) are well, 4 arrested, 3 relapsed, 8

TABLE III.

ANALYSIS OF FIFTEEN HUNDRED CASES DISCHARGED FROM TWO TO EIGHTEEN YEARS AGO.

Condition.				Condition in 1902.											
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient.....	Ap. cured	245	67	131	53	4	2	11	4	2	1	22	9	75	31
	Disease arrested	83	23	30	36	7	8	3	3	4	5	16	20	23	28
	Disease improved	29	8	9	31	2	7	0	0	0	0	10	34	8	28
	Disease unimproved	3	1	0	0	0	0	0	0	0	0	6	75	2	25
	Stayed less than one week.....	1	0	0	0	0	0	0	0	1	100	0	0	0	0
	Total.....	366	..	170	46	13	4	14	4	7	2	54	15	108	29
Advanced.....	Ap. cured	90	12	54	60	1	1	4	4	1	1	9	10	21	24
	Disease arrested	338	43	80	24	43	13	20	6	18	5	106	31	71	21
	Disease improved	261	34	16	6	7	3	3	1	17	7	118	45	100	38
	Disease unimproved	78	10	1	1	0	0	0	0	3	4	52	67	22	28
	Died at sanitarium.....	10	1	0	0	0	0	0	0	0	0	10	100	0	0
	Stayed less than one week.....	1	0	0	0	0	0	0	0	0	0	0	0	1	100
	Total.....	778	..	151	19	51	6	27	4	39	5	295	38	215	28
Far advanced.....	Disease arrested	51	15	2	4	1	2	2	4	3	6	29	57	14	27
	Disease improved	116	34	1	1	4	4	1	1	6	5	69	59	35	30
	Disease unimproved	152	44	3	2	0	0	0	0	0	0	98	64	51	34
	Died at sanitarium.....	24	7	0	0	0	0	0	0	0	0	24	100	0	0
	Total.....	343	..	6	2	5	1	3	1	9	3	220	64	100	29
Doubtful cases		2	0	2	100	0	0	0	0	0	0	0	0	0	0
Incomplete records		11	0	0	0	0	0	0	0	0	0	0	0	11	100
Grand total.....		1500	..	329	22	69	5	44	3	55	4	569	37	434	29

B.—*Advanced Cases.*—The 538 advanced cases were discharged as follows: Apparently cured, 70; arrested, 276; improved, 137; unimproved, 50; dead, 4. At the present time: Well, 134 (25 per cent.); arrested, 46; relapsed, 27; chronic, 38; dead, 178 (33 per cent.); untraced, 115. Of the 70 apparently cured cases 43

chronic, 130 (65 per cent.) dead, 48 untraced. Of the arrested cases 2 are well while 1 each of the improved and unimproved cases are well. Seventeen of the arrested cases, 47 of the improved and 58 of the unimproved are dead. The untraced cases are as follows: Arrested, 8; improved, 17; unimproved, 23.

SUMMARY OF RESULTS IN 1,000 CASES.

In other words, the condition at present of these 1,000 cases is as follows: Well, 28.7 per cent.; arrested, 6 per cent.; dead, 33.6 per cent.; untraced, 22 per cent. From this it is seen that 444 patients are alive, 336 dead and 220 untraced. Bearing in mind the fact that the patients of the first group were all discharged before the earliest cases of the second, it nevertheless appears that the patients of the second group have done better since discharge than those of the first group. Many of the untraced cases in both groups are undoubtedly dead. The reason why the percentages of the cases that have died do not vary more is probably due to the fact that in the second group a much larger percentage of the cases that have died have been traced. For this reason it is well to compare only the cases still alive in each group. Of the first group 10 per cent. of the cases are alive and 8 per cent. are well from eight to eighteen years after discharge. Of the second group, 44 per cent. of the cases are alive and 28.7 per cent. are well from two to eight years after discharge.

III.—RESULTS OBTAINED IN FIFTEEN HUNDRED CASES DISCHARGED FROM TWO TO EIGHTEEN YEARS AGO.

The number of cases discharged from the Adirondack Cottage Sanitarium until two years ago was 1,500. Of these 366 (24.4 per cent.) were incipient, 778 (51.8 per cent.) were advanced, 343 (22.8 per cent.) were far advanced, 2 cases were doubtful and 11 cases had incomplete records.

A.—*Incipient Cases.*—The 366 incipient cases were discharged as follows: Apparently cured, 245 (67 per cent.); arrested, 83; improved, 29; unimproved, 8. At the present time 170 (46 per cent.) are well; 13 are in a state of arrest; 14 have relapsed; 7 are chronic; 54 are dead; 108 are untraced. Of the 245 cases apparently cured 131 are well, while 30 of the 83 arrested cases, 9 of the 29 improved cases and none of the unimproved cases are well. Twenty-two of the apparently cured cases are dead; 16 of the arrested, 10 of the improved, 6 of the 8 unimproved cases are dead. The untraced cases are as follows: Apparently cured, 75; arrested, 23; improved, 8; unimproved, 2.

B.—*Advanced Cases.*—The 778 advanced cases were discharged as follows: Apparently cured, 90 (11.5 per cent.); arrested, 338; improved, 261; unimproved, 78; dead, 10. At the present time 151 (19 per cent.) are well; 51 arrested; 27 relapsed; 39 chronic; 295 (38 per cent.) dead; 215 untraced. Of the 90 apparently cured cases 54 are well, while 80 of the 338 arrested, 16 of the 261 improved and 1 of the 78 unimproved are well. Nine of the apparently cured cases are dead; 106 of the arrested; 118 of the improved, and 52 of the unimproved. The untraced cases are as follows: Apparently cured, 21; arrested, 71; improved, 100; unimproved, 22.

C.—*Far Advanced.*—The 343 far advanced cases were discharged as follows: Arrested, 51; improved, 116; unimproved, 152; dead, 24. At the present time 6 (1.7 per cent.) of these are well; 5 arrested; 3 relapsed; 9 chronic; 220 dead, and 100 untraced. The cases that are well at present are as follows: Arrested, 2; improved, 1; unimproved, 3. Twenty-eight of the arrested cases are dead; 63 of the improved, and 45 of the unimproved.

SUMMARY OF RESULTS IN FIFTEEN HUNDRED CASES.

In all, 497 (33 per cent.) cases are alive; 569 (38 per cent.) are dead, and 434 (29 per cent.) are untraced. Of the 497 patients that are alive 329 (22 per cent.)

are well; 69 (4.6 per cent.) are arrested; 44 (3 per cent.) relapsed; 55 (3.7 per cent.) are chronic.

If we deduct 434 untraced cases we have left 1,066 cases which have been traced. Of these 31 per cent. are well; 6.5 per cent. are arrested; 4 per cent. have relapsed; 5.2 are chronic; 53.3 per cent. are dead. Deducting from the number of incipient cases those that have been untraced we find that there are left 258 cases. Of these 66 per cent. are well and 21 per cent. are dead. Of the 563 advanced cases which have been traced 28.6 per cent. are well and 52 per cent. are dead; while of the 235 far advanced cases which have been traced 2.5 per cent. are well and 90 per cent. are dead. It must be remembered, however, that these figures are only approximately correct, as no doubt more of the untraced cases are dead than these figures would indicate.†

Clinical Reports.

A CASE OF NEURITIS OF THE RIGHT INFERIOR DENTAL NERVE

INCIDENT ON FORWARD DISLOCATION OF THE MANDIBLE OF THREE YEARS' STANDING.*

GEORGE A. MOLEEN, Ph.G., M.D.

DENVER.

Aside from its rarity, the following case will illustrate the importance of a clear history and complete examination even in such a simple malady as facial neuralgia. I acknowledge my indebtedness to Drs. Packard and Silverstein for their prompt care and treatment of what seemed to be the cause.

Mrs. L. K., aged 49, born in Lebanon, Pa., has been in Colorado three years and did not come for her health; occupation housewife. First seen Feb. 7, 1903.

Family History.—Parents born in Pennsylvania; mother died of la grippe, father from dropsy. There were fourteen in the family, of whom five sisters and two brothers are living, the remainder are dead from various irrelevant causes. Tuberculosis, other chronic diseases, insanity and nervous diseases are denied.

Past History.—Of the exanthemata she had diphtheria at 9; measles at 22; denies scarlet fever; has had no sequelae nor has she at any time complained of aural discharge, dizziness or vomiting. Menstrual history good; climacteric six months ago. When young she complained considerably of toothache, and neuralgia was suggested. Shortly after her arrival in Colorado she began to have paroxysmal pain confined to the right side of face, which seemed to originate, according to her localization, about the right lower bicuspid. This was drawn without relief, and after several medical and dental examinations the lowers were drawn to no purpose, until finally, on the advice of a physician, all her teeth, upper and lower, were removed in April, 1902, without modifying her symptoms.

Present State.—She has slept little for three months past, on account of pain. She says sedatives have given but little relief. The paroxysms come on at varying intervals of from 3 to 10 or 15 minutes, and seem to be excited by movement of the jaw, as in eating or talking, and can be excited by forcibly depressing the jaw. They sometimes begin in the ear and at others in the alveolar process. During the paroxysm the face becomes pinched, the right side flushed, and in severe attacks perspires slightly on the right side only. The pupil of the right eye is seen to dilate when the eye is held open and her hands restrained. Between paroxysms she becomes quiet,

† Since the above was written 5 of the untraced cases have been found to be alive, making 502 cases alive. In 10 cases death was due to other causes than tuberculosis.

* Read before the Rocky Mountain Interstate Medical Association, Salt Lake City, 1903.

though she complains of prickling of the right side of the face and of numbness and tingling on the right side of tongue. Sometimes there is a roaring in the right ear and a burning sensation in the right nostril. She has been partially deaf for some time and can be made to hear with difficulty, though more readily in the right ear.

Examination.—Feb. 7 and 10, 1903. Well-developed German woman, with drawn, careworn, though anxious, expression. All voluntary and co-ordinate motion normal and equal. Reflexes normal and equal and there is no response on tapping the masseter. Tongue is protruded in the median line, without tremor.

Sensory phenomena are in the main normal throughout the body, though she has impaired tactile sensibility with hyperalgesia on right side of face, the outline of which is as follows: Beginning at the external angular process extending upward to about the bregma, then downward and apparently dividing the ear—i. e., the tragus is more hyperalgesic than the concha and pinna—continuing downward to about one-half inch below the angle of lower jaw and forward to about the median line. Touching the skin at this area is not perceived as readily as on the opposite, and when perceived is painful. Pressure over the mental foramen causes severe pain and sometimes excites a paroxysm, the same being true at the infra-orbital opening. The supra-orbital is seemingly no more sensitive on one side than on the other. The submaxillary gland is also very tender and excites an attack readily. The mucous membrane of the right nostril, as well as the same side of the tongue, was markedly hyperesthetic.

Special Senses.—Salt placed on the right half of the tongue in the usual manner was met by immediate signal, but the tongue was washed and wiped, avoiding the left side, without allowing her to withdraw it, and she was unable to recognize and name the substance, even after several attempts with sugar, vinegar, etc.; near the base of the tongue, however, i. e., at about the anterior pillar, she recognized readily. Taste was present throughout the entire left side of the tongue. When asked why she signaled, she stated that she felt it as rough and thought she could taste it, but it was the pain she perceived. There can be no evidence of interference with smell detected.

Diagnosis.—The foregoing was strongly indicative of some mischief along the two lower divisions of the fifth nerve, and especially the third, and that it was undoubtedly irritative in character, a cause was consequently sought.

It was noticed that on depression of the lower jaw the condyle became quite prominent on the left side of the face, about three-quarters of an inch in front of and slightly below the external auditory canal. The right side revealed a corresponding depression, the jaw then rotated laterally and with considerable force, and by examination it was found that when depressed the internal pterygoid muscle was in a state of tonic contraction.

It then seemed but fair to assume that the condyle of the right side was irritating the inferior maxillary nerve at or about the site of the otic ganglion, which assumption was cleared on a study of its communications and branches, viz.:

The second division was affected through the connection by means of the vidian and petrosal, with Meckel's ganglion.

The sympathetic connection afforded an explanation of the flushing, sweating and pupillary symptoms.

The branch of the tensor tympani explained the increased hearing on the affected side.

The chorda tympani accounted for the loss of taste in the anterior portion of the same side of tongue.

It will be seen that the area of the first division was exempt.

Treatment.—Just how long the displacement had existed, or when it occurred, could not be learned, and the patient was even ignorant of its existence.

On account of the probable filling of the glenoid cavity by fibrous tissue a brace was advised, which would constantly exert an upward and backward pressure on the chin and still allow movement of the jaw, also with spring compresses to avoid the lateral movement of the condyles. She was ac-

cordingly referred with the above suggestions. A brace was devised which met the indication, and iodids and small doses of mercury given for a time.

Course.—After 4 or 5 days the pain began to subside and in about 10 days disappeared entirely. The sense of taste returned rapidly and the hearing on the affected side diminished until equal to that of the other side. She continued wearing the brace until about June 22, when she developed pain in the tongue and was unable to protrude the organ. Whether it was due to irritation of the hypoglossal by the chin rest or not I can not say, though it disappeared in two or three days after removal of the brace.

About July 1, having removed the brace, she began to experience very severe paroxysms of pain, which she described as boring in character, and localized constantly at a point a little below the condyle of the same side. The attacks were therefore quite different from her former ones, there being no area of hyperalgesia, nor was the tenderness of the mental foramen as marked. There was no swelling or tenderness along the process at this time.

The possibility of neuroma at or about the point of irritation was considered, and Drs. Hopkins and Freeman were consulted regarding the advisability of operative interference,



The brace in position.

which now seemed to be the only means of affording her relief. During this time she was given three grains of codein in divided doses, in the course of three hours, which gave her more relief than three-eighth grain morphin. A small cyst was noticed at the angle of the jaw, internally, and opened without perceptibly influencing the symptoms.

The brace was reapplied and adjusted to increase the pressure on the chin, and at first had little effect. The potassium iodid and mercury (red iodid 1/50 grain) were resumed.

The pain gradually left her and at the present time she scarcely notices it. The brace has been kept in place steadily since, and she is still taking the iodids, mercury and codein, while enjoying her escape from the surgeon for the present.

DEATH BY LIGHTNING.

B. KELLY, M.D.

CLIO, IOWA.

A powerful man, weighing 212 pounds, 36 years old, was struck by lightning. In about 10 or 15 minutes I found him deeply cyanosed, skin relaxed and cool and the heart beating feebly, but there was no visible respiration. I gave him hypodermic injections of strychnin, whisky and finally the normal salt solution, keeping up artificial respiration for ten hours, when the heart failed. The face brightened slightly for a few moments under the artificial respiration and the heart at short periods beat stronger, but no farther reaction was obtained, the temperature steadily falling.

Finding literature scarce on the subject I will be glad to have some one state what would have been the prospects for a better result by the use of an electric battery.

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MENDEL'S LAWS AND RECENT ANIMAL EXPERIMENTS IN HYBRIDIZATION.

During the last decade perhaps no other set of scientific papers has called forth more discussion than have Mendel's memoirs on experiments in cross-fertilization of plants, which were briefly reviewed in a recent issue of *THE JOURNAL*.¹ Several experimenters have recently published their results obtained by cross-breeding animals, and earlier experiments have been reviewed in the light of Mendel's laws. The conclusions do not agree, however, as there is a difference in the interpretation of the results by different authorities. In 1885 Crampe published his results from crossing gray wild mice with albino mice, and these results are especially interesting because he was at that time not familiar with Mendel's laws. All the offspring coming from this cross were gray, the white being shut out (recessive). In the offspring from these hybrids the recessive characters reappeared. That is, there were 27.8 per cent. albinos and 72.2 per cent. colored mice. This is in close accord with Mendel's laws, as according to them there should be about 25 per cent. of albinos in this generation.

Von Guaita crossed Japanese waltzing mice with albinos and got hybrids resembling wild house-mice, both in color and behavior. There seems to have been here a reversion to the ancestral type. No albinos were found among the hybrids. From these hybrids, however, he got 14 albinos (31 per cent.) and 30 colored mice, some gray, some black, and some spotted. The albinism seems to have been recessive, in the Mendelian sense, but the variety of colors among the others is not in accord with Mendel's principles.

Cuénot crossed gray house-mice with white mice and invariably got gray hybrids, the white being recessive. These hybrids were mated and produced 270 young, 26.6 per cent. of which were albinos and 73.4 per cent. gray. The albinos produced only albinos in the succeeding generations. According to Mendel's laws, one-third of the grays should produce gray offspring and two-thirds of them should produce albinos and grays in the average proportion of one to three. It is not easy to select the constant grays from the hybrids and mate only hybrids, but Cuénot believes that the results are in close agreement with the demands of the law. From several matings of what he believes to have been hybrids coming from the first generation of hybrids he got 219 young, 21 per cent. of which were albinos and 74 per cent. gray.

Darbyshire mated Japanese waltzing mice with albinos, and the offspring, which represent 203 individuals, are all colored, but some of these are quite different from the Japanese waltzing mouse. There are no albinos, and none of these hybrids waltzes. He now mated some of these hybrids and got 37 offspring, 9 of which were albinos, approximately 25 per cent. Eight mice of this generation waltzed. In crossing albinos of the first generation of hybrids he got 39 albinos, 31 wild colored, 15 black and 3 yellow mice among the offspring. That is to say, there was a fairly sharp segregation into albinos and wild colored mice. According to Mendel's laws, there should be about 50 per cent. of albinos. The color of the eyes, however, does not follow Mendel's laws. Both the albinos and the Japanese waltzing mice have pink eyes, while the hybrids have dark eyes. If the pink eyes were recessive they should remain constant when both parents have pink eyes, and if they are dominant they should also be constant here.

Lastly may be mentioned Wood's records in hybridization of rabbits. This work was undertaken with a view of testing Galton's law of inheritance which may be stated here: "One-half of the heritage of any generation is derived from the parents, one-fourth from the grandparents, one-eighth from the great-grandparents, etc." Wood had black rabbits which were considered to be hybrids, and on mating them got 133 offspring, 21 per cent. of which were white. In mating black hybrids with albinos he got 40.3 per cent. albinos. In both of these experiments there were not quite enough albinos according to Mendel's laws. In mating albinos which came from black parents the offspring were always white. This result agrees with Mendel's laws, but it is entirely out of harmony with Galton's law.

It is seen from these experiments that most of the results agree fairly well with Mendel's laws, but there appear to be some exceptions. At present, however, the experiments are too few to draw positive conclusions from them, and as rabbits and mice are very complex organisms, it is possible that errors have crept in. It is left for the future, therefore, to determine how closely we can predict the characters of the offspring when the characters of both parents are known.

TUBERCULOSIS IN INDIA FAVORS KOCH'S VIEWS.

The problem of tuberculosis will not be worked out in one country or in one climate, and any one who bases his conclusions on the contracted view of his own personal experience is liable to be mistaken. There are many advantages in studying the disease under all conditions, requiring ranges of temperature, social and dietary customs; etc., which are not to be found in any one district or country.

The recent report of the health officer of Calcutta is somewhat to the point. As it appears from an abstract in the *Indian Medical Gazette*, tuberculosis is statis-

1. *THE JOURNAL A. M. A.*, Nov. 7, 1903, p. 1146.

tically put down as furnishing 6.4 per cent. of the adult deaths in that city. The health officer, Dr. Cook, thinks that this is far too low a figure, and bases his opinion on several facts which seem to give it standing. For example, in the Medical College Hospital, Calcutta, 966 consecutive postmortems showed 13.4 per cent. of deaths due to pulmonary tuberculosis and 3.6 per cent. to other forms of tuberculosis. There are, moreover, he says, a large proportion of cases of tuberculosis that are not recognized. Calcutta is full of irregular practitioners of every sort, qualified and unqualified, and an immense number of tuberculous cases are registered under the names of dysentery, malaria, asthma, etc. Such cases come within the experience of every consultant physician.

It is well known that the tropics are no more exempt from tuberculosis than the temperate countries, but there are certain special phases that can be observed there, especially in a country like India, where religious and social customs have an important influence. Dr. Cook is inclined to think from his own Indian experience that there is some basis for Koch's utterances as regards the differences between bovine and human tuberculosis. The Indian experience shows that the Hindoos who eat no beef, who practically sterilize all the milk and cow-products they use, are no more exempt from tuberculosis than the Christian and Mohammedans in their midst. Another point raised is the comparative infrequency of tuberculosis in Indian children. This may possibly be accounted for by the late period of weaning and the almost universal practice of maternal nursing. Tuberculosis in India is, as a rule, a disease of adult life, and Dr. Cook seems to think that its propagation is almost always by contagion through sputum. The editor of the *Indian Medical Gazette* remarks that tuberculosis in all its forms is less frequent, according to his own observation, among native children than among those of the Eurasians or Europeans.

So far, Indian testimony seems to be in favor of the contagiousness of the disease and against Behring's theory of infant infection, though it is not, of course, conclusive, as there are too many elements to be considered. A thorough cosmopolitan study of the disease under all circumstances will assuredly be a valuable aid to the elucidation of its problems.

THE ARTIFICIAL CULTIVATION OF PATHOGENIC PROTOZOA.

Progress in the biologic sciences relating to medicine is dependent in large measure on special technical methods. This fact is particularly well illustrated by the history of bacteriology. The science of modern bacteriology is the direct outgrowth of the development, especially by Koch, of suitable media, more particularly solid media, on which bacteria will grow and multiply in a characteristic manner and in such form that it is possible to secure pure growths. Only in this way could it be possible to study adequately the cultural and other

biologic peculiarities of bacteria and to obtain pathogenic bacteria in such form as to be able to subject them to various conditions and manipulations essential to investigations into the complex problems of immunity. The ingenuity required to secure pure growths on artificial media of some pathogenic bacteria is illustrated well in the case of the bacillus of tuberculosis, the gonococcus and the bacillus of influenza. Thus growth of the latter two is favored specially by the presence of certain constituents of human blood. And in spite of innumerable efforts, the peculiar requirements necessary to induce the bacillus of leprosy to grow on artificial media have not yet been discovered. This bacillus multiplies freely in the lesions of human leprosy, where it is readily demonstrable by special staining methods, but to this day pure cultures of the lepra bacillus have probably not been obtained. There are many diseases of undoubted infectious nature the unknown as well as the morphologically demonstrable pathogenic agents of which, so far as we know, are uncultivable with the methods now at hand.

Since it became established that certain diseases of man and animals were intimately associated with the presence of protozoa, which there was full reason to believe were specifically pathogenic, investigators have exercised the greatest ingenuity in order to devise suitable methods for their artificial growth. Success at last has crowned the efforts of Novy and McNeal, who have found that the trypanosoma of rats and of the tsetse-fly disease may be grown in the condensation fluid of agar mixed with rabbit's defibrinated blood—a really quite simple method. This being done, it was easy to take the next step, namely, to demonstrate the pathogenic powers of these trypanosomes by the injection of pure cultures. As indicated in their report in this issue of *THE JOURNAL*,¹ experiments in immunization are now feasible. The Ann Arbor investigators are therefore entitled to hearty congratulation on having succeeded in opening the way for the successful study of pathogenic protozoa in pure growths under artificial conditions along the same lines that have yielded such brilliant results in that other department of microbiology, namely, bacteriology.

May this prove to be but the beginning of a series of successful cultivations of microparasites of animal origin. Perchance we shall learn before long that colonies of protozoa can be grown on solid media as well. In bacteriology artificial cultures in liquid media preceded the development of the methods of cultivation on solid media, and it may well be that this will turn out to be the case with the animal microparasites also.

THE SELF-REPARATIVE POWER OF THE SPINAL CORD.

Some time ago we noticed editorially in *THE JOURNAL*² a remarkable case in a Philadelphia hospital in

1. See page 1266.

2. *THE JOURNAL A. M. A.*, vol. xxviii, p. 1626, June 21, 1902.

which, owing to traumatism and destruction of the cord, about three-quarters of an inch was resected and united again by sutures with the result of a partial restoration of function. There has been, so far as we know, no more recent report regarding the progress of this case in medical publications, though we have seen such notices in the daily press.

An almost equally remarkable case has just been reported by Dr. C. Harvey Rodi³ of Calumet, Mich.: The patient was injured by a falling rock, and was operated on three hours after the injury. There was complete paralysis below the seat of fracture, and dislocation and fracture at the junction of the tenth and eleventh dorsal vertebrae. The ligamentous attachment of the tenth and eleventh spinous processes was severed and the arches separated so widely that the spinal canal was laid open and the cord exposed. The body of one of these vertebrae was fractured, and the cord was seen to be entirely severed save a filament about the size of a pin connecting the two parts which were separated about an inch. It is not stated that the cord was sutured, but portions of the articular process of the tenth and eleventh vertebrae were removed with a chisel to assist in reducing the dislocation and with a view to bony union. The wound was closed with silkworm gut, and a few strands inserted for drainage and a plaster jacket applied. The next day, it is reported, there was sensation a little below the pelvis; a week later sensation existed about the ankles, but paralysis continued for some time. A large deep sacral bed-sore appeared, there was incontinence of urine and of feces with cystitis; the patient nevertheless began to improve very rapidly, and is now—a year later—in control of both the sphincters and can go around on crutches. He claims to be getting stronger in his legs every day and looks forward to complete recovery. In this case the little band of spinal tissue seems to have acted like the catgut connection which has sometimes been made in widely-divided nerve suture, and as the route along which regenerated tissues can travel. It is hard to say what the actual condition of the cord is at the present time, but there certainly must have been a considerable restoration of structure to account for the restoration of function so far as it has progressed.

The case is well worth watching. Dr. Rodi had three local physicians examine the case at the time of the operation beside two medical students, and there seems to be no reasonable ground for questioning the facts. Our ideas not only as to regeneration of the nerves but also of the nerve centers seem likely to be somewhat revolutionized if such cases as this become very common.

ONE WAY OF DOING IT.

Our British contemporary, the *Medical Press and Circular*, editorially notices a peculiar method of revenging insults to the medical profession which, while

we can not commend it, is perhaps somewhat excusable under the circumstances. In an Irish community certain of the public authorities had given out gratuitous and highly offensive utterances in regard to the medical profession in the district. The local branch of the British Medical Association made, our confrère says, an inarticulate but very effective reply. They did not resolve to boycott or refuse their medical services to the offending parties, but made a rule that special fees should be charged them and their families. The surest way to touch most people is through their pockets, and our contemporary hopes it will be effective in this case.

A REDISCOVERED TEST FOR MUMPS.

It is rather remarkable how well-known facts come to be rediscovered. There is probably no general practitioner of any experience in this country who has not heard of the diagnostic test for mumps—eating a pickle. In fact, it may be considered as a matter of universal knowledge. It seems, however, to have been only recently discovered abroad. A French physician reports in a Paris medical journal the value of vinegar or acetic acid as an early test for mumps and the directions are much the same practically as those in family domestic use in this country. The patient must swallow after the application of vinegar or acid, which causes a painful reflex secretion of saliva—the same old well-known phenomenon. That this idea is a new one in Great Britain also is apparently evidenced by the fact that our esteemed contemporary, the *British Medical Journal*, considered the article of sufficient importance to include it in its epitome of current medical literature in its issue of October 31.

THE DE NOVO ORIGIN OF INFECTIONS.

In a recent number of the *Lancet*,¹ Dr. H. Charlton Bastian advocates the *de novo* origin of a number of diseases considered by us as specially typical of bacterial infection. He bases his arguments on some experiments, made as far back as 1882 and 1884, and even earlier, of the production of so-called septicemias in the rabbit by the injection of putrid blood. One of these, the so-called Davaine septicemia, was undoubtedly a true septicemia, as we now understand the word. The other, Pasteur's septicemia, would probably be now more commonly recognized as a bacterial intoxication. The experiments to which he refers, however, can be usually assumed to be accounted for according to modern ideas of bacterial pathology, and his arguments based on these will not be held, by the modern pathologist, to carry much weight. He admits that it is not absolutely necessary to assume that bacteria can be produced *de novo*, but that they can be modifications of pre-existing and less virulent germs excited into active virulence by some special irritation. This is a modern view to some extent, and we may deem it possible. When, however, it is applied to such disorders as tuberculosis and leprosy, as in Dr. Bastian's article, our faith in his views is somewhat shaken. He seems to be positive, as he says when noticing Behring's recently enunciated

3. The Journal of the Michigan State Medical Society for November.

1. October 31.

opinions as to the latency of tubercle germs: "I, on the other hand, have proved the possibility of their *de novo* origin." Dr. Bastian's reputation as a scientific physician and an investigator is well established, but his earlier opinions in regard to the beginnings of life have long since been discredited. It would seem that he still holds to them, at least in a modified form. There is no necessity for believing that every inflammation or irritation is of bacterial origin, but that certain recognized disorders like consumption, leprosy, etc., are thus originated seems to be as much beyond question at the present time as any scientific fact. Dr. Bastian's paper is a sort of curiosity in its way, not only from what it really says, but also from what it infers; yet it will not, we think, give rise to any very serious questioning of the modern accepted views.

THE KAISER'S CASE.

The latest official reports from Germany, especially the details furnished by the operator, Dr. Moritz Schmidt, seem to give authoritative and trustworthy details as to the character of the growth that was removed from the throat of the German Emperor two weeks ago. Contrary to what was at first described, it is now announced that the polypus had no stem, as is usually the case, but spread itself over the surface, and especially over the free margin of the left vocal cord. For this reason the operation was more complicated than with an ordinary laryngeal polypus. The operation had to be done by a formal excision through surrounding tissues in order to enable the operator to obtain a grasp of the polypoid growth for complete removal. Perhaps the most discouraging part of the report is the fact that the entire left vocal cord was inflamed and reddish before the operation, and it is therefore expected that the return to normal conditions will require a rather prolonged period of convalescence. The fact that the so-called polypus was not pedunculated but sessile, would seem to indicate that it might be a neoplasm of infiltrating type, and in a position that is so prone to malignant degeneration as the larynx, this is not an encouraging feature of the case. The presence of some inflammatory reaction for a considerable period, and the fact that the scar of an operation of this kind is liable of itself to be a source of chronic irritation because of contractile tendencies inevitable in the new-formed tissues that will cover the defect, increases the possibilities of future malignant degeneration. When to this is added the discouraging factors in the Kaiser's personal history, the death of both father and mother from malignant disease, it can readily be understood why the matter causes serious apprehension in many minds. Professor Orth's very positive declaration of the non-malignancy of the growth was somewhat tempered by the fact that he considered certain elements in the tissues examined by him deserving of further investigation. While we certainly accept the statements of those who have charge of the case, as far as they go, and can not feel justified in taking a pessimistic view of the matter, it is well to remember at this time that on three separate occasions Orth's great predecessor, Virchow, was asked to examine portions of

tissue removed from the throat of the Kaiser's late father, and on each occasion failed to find any sign of malignancy in them; and we all remember the outcome. We sincerely hope that these unfavorable possibilities—for they must at this time be regarded as such, and not as probabilities—may never be realized, for the German Emperor is one of the great moral forces in our generation.

DIABETIC FLOUR.

It has long been known from the analyses of Woods, Atwater and others that a number of so-called diabetic flours are not what they are claimed to be, and are only misleading and often injurious substitutes for the ordinary bread-making materials. It seems that some German and French manufacturers have succeeded in producing a gluten flour suitable for bread making, and similarly certain British makers have also approximately succeeded. It would appear that we have been less fortunate in this country; the New Hampshire State Board of Health has recently collected specimens of all the diabetic and gluten flours so advertised that were obtainable, and publish in their October report the results of an analysis of these samples. Out of 13 samples 7 had very little less than the average amount of starch, and only 2 samples were comparatively free from it. Neither of these two, however, were suitable for bread making, but were rather a sort of breakfast food or material for combination with almonds, etc., in preparing biscuits. A few others had a rather notably reduced amount of starch, and one, the soja bean meal, would be valuable as a substitute if it were possible to make a palatable bread from it. The results seem to show that many of the so-called diabetic foods, or gluten flours, are very little different from the whole wheat or graham flours, and have very little less starch than the ordinary white wheat flour. Some of the more highly-recommended and widely-advertised diabetic flours, the New Hampshire analyst says, "consist solely of whole wheat flour and by reckless misstatement and deliberate fraud are sold at enormous prices as a cure for diabetes." In a few cases the analyses show that the manufacturers have evidently tried with more or less success to produce a flour low in starch, and the judicious use of their products might be beneficial, but in any case the amount of starch present is high, and the flour must be used sparingly. The same results can be equally well obtained from diminishing the amount of ordinary bread material. There is a great deal of money in this manufacture, and the temptation for misrepresentation is great. One of the most disreputable methods employed is that noted in a recent British contemporary¹ where diabetic-flour manufacturers sent circulars to druggists all over Great Britain offering them 5 shillings for the address of every diabetic patient in their knowledge and thus endeavored to obtain surreptitiously and at the violation of professional confidence a means of advertising their wares. The concern thus acting is the Diabetes Flour Company of London, and its name should be remembered in case they attempt to introduce their products in this country.

1. Med. Press and Circular, Nov. 4, 1903.

Medical News.

CALIFORNIA.

More Bubonic Plague.—Three more deaths from bubonic plague occurred in San Francisco, October 20, 23 and 24.

Physician Aeronaut.—Dr. August A. Greth, San Francisco, has made a successful trip over San Francisco in a dirigible airship constructed by himself.

Smallpox.—In the Ophir district, Auburn, five cases have been discovered in one family.—During October 8 cases of so-called varioloid were reported in Sacramento.

To Clean Chinatown.—Mayor Schmitz of San Francisco has signed the ordinance passed by the board of supervisors appropriating \$5,000 from the "Urgent Necessity Fund" to continue the work of thoroughly cleaning Chinatown and endeavoring to put that part of the city in sanitary condition.

Personal.—Dr. Ernest W. Fleming, Los Angeles, has returned from Europe.—Dr. and Mrs. Joseph Kurtz and daughter, Los Angeles, have returned after nearly a year abroad.—Dr. William F. Snow, assistant professor of hygiene at Leland Stanford University, has been made associate professor in the same department.—Dr. Aloysius P. O'Brien, San Francisco, has been commissioned colonel and surgeon-general of California.—Dr. Orra C. Hyde, Oakland, has been made resident physician in the St. Quentin prison.—Dr. J. Raymond Hurley, late U. S. M.-H. and P. H. Service, has accepted the position of surgeon on the Pacific Mail Steamship Company's steamer *American Maru*.—Dr. Melville M. Shearer, Santa Rosa, has been appointed a member of the advisory board recently formed to draft sanitary laws to be introduced at the next session of the legislature.—Dr. Ira B. Ladd, Stockton, has been re-elected physician of San Joaquin County.

COLORADO.

Deaths in the State.—During September 782 deaths and 22 still-births were reported, an annual mortality rate of 16.47 per 1,000, excluding still-births. Typhoid fever caused 51 deaths, diphtheria 14, and scarlet fever 5.

Communicable Diseases.—During September 123 cases of diphtheria were reported in the state, an increase of 14 cases over the preceding month; 62 cases of scarlet fever, an increase of 28 cases; 40 of smallpox, a decrease of 3 cases, and 386 cases of typhoid fever, an increase of 183 cases.

A Criminal Sentenced.—Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, informs us that Edward Reitzel, ex-convict of Pontiac Reformatory, alias Dr. George A. Elliott, alias George E. Cook, registered in Colorado by a stolen diploma from the Toronto University, 1896, was convicted of criminal abortion and sentenced November 14 to three years in the Colorado penitentiary. The details of this man's history, with his photograph, were published in THE JOURNAL, Jan. 3, 1903, page 42. Dr. Van Meter says further: "After skipping his bond in Colorado he changed the Elliott diploma to read George E. Cook, and registered it in Oklahoma. Accompanying it was an affidavit purporting to be from Dr. John B. Murphy, but which is a forgery throughout, the signature and all being in the handwriting of Reitzel's third wife, nee Mary Etta Inman. The real Dr. Elliott is practicing in Leamington, Ontario."

ILLINOIS.

Diphtheria Closes Schools.—A Decatur telegram reports that diphtheria has caused the closing of four schools in Long Creek and Mount Zion townships.

Personal.—Dr. Lee Smith has been elected chief of the medical staff of St. Joseph's Hospital, Bloomington, vice Dr. Charles R. Parke, removed from the city.—Dr. Ulric A. Bedard, Ste. Anne, has returned to America after a stay of three years in Paris.

Physician Breaks Laws.—At the semi-annual meeting of the Livingston County (Ill.) Medical Society, held in Pontiac, November 6, the censors reported that Dr. William L. Rabe, Dwight, had pleaded guilty to the charge of selling liquor to minors and he was accordingly expelled from the society.

Asylum Attendants Go Free.—The grand jury at Peoria found no indictment against the two asylum attendants accused of the murder of Thomas Hartley, the insane patient. The jury said they believed it would be impossible to show that the men were not defending themselves since no one saw the struggle except the participants.

Smallpox.—Ridgway has 8 cases.—The disease has appeared at Kewanee.—The quarantine of Joliet against

Lemont was lifted November 11. Disease has not disappeared, but every precaution against its spread is being observed.—From 70 to 80 cases are said to exist in St. Clair County.—South Wilmington reports 6 cases.

State Charity Report.—The bulletin of the State Board of Charities for three months ended September 30 was issued November 10. The average number of inmates during the quarter was 10,826. The gross per capita cost of maintenance was \$40.42 and the net per capita cost to the state \$34.65. At the end of the quarter there was \$4,710,924.27 in the state treasury to the credit of the institutions. The best record was made by the Illinois Eastern Hospital, Kankakee, where the net per capita cost for the quarter was only \$29.21.

Chicago.

Presbyterian Hospital Concert.—The fifth annual concert for the benefit of this hospital on November 12 was well attended and netted about \$7,500.

New Maternity.—The "Mercy Maternity" has just been completed as an adjunct to Mercy Hospital. The building is detached, and is under the charge of Dr. Joseph B. De Lee.

Deaths of the Week.—The deaths for the week ended November 14 were 484, equivalent to an annual mortality per 1,000 of 13.38, two deaths less than for the corresponding week of last year, and eight deaths more than for the previous week.

Gift to Wesley Hospital.—Rev. R. D. Sheppard of Evanston has offered \$35,000 to Wesley Hospital toward paying off its indebtedness, provided the remainder, \$25,000, is raised in two years. The trustees accepted the conditions and report that \$17,000 of the necessary amount is already in sight.

Increased Mortality.—During the last thirteen years, 1890-1902 inclusive, the mortality from nephritis, heart disease and pneumonia has increased over that of the thirteen years, 1877-1890 inclusive, in the following ratios: Heart disease, 48 per cent.; pneumonia, 53 per cent., nephritis, 87 per cent.

Northwestern Faculty Changes.—At the meeting of the board of trustees of the Northwestern University, November 17, Dr. Charles L. Mix was elected professor of physical diagnosis to fill the vacancy left by the resignation of Dr. George W. Webster; Dr. Fred Menge was elected assistant professor of laryngology and rhinology, and Dr. William A. Mann was elected assistant clinical professor of ophthalmology and otology.

MARYLAND.

Personal.—Dr. Washington C. Claude, chief of staff of the Annapolis Emergency Hospital, has resigned.

Election of Officers.—The Frederick County Medical Society elected the following officers for the ensuing year: President, Dr. C. W. Goldsborough; vice-presidents, Drs. David M. Devilbiss and E. L. Beckley; secretary, Dr. Ira J. McCurdy; treasurer, Dr. William C. Johnson; librarian, Dr. Harvey F. Gitzendanner.

Emergency Hospital.—The Frederick County Medical Society's new hospital building will be formally opened December 1, with 25 beds. A board of trustees consisting of a number of physicians, with Dr. William H. Wagner as chairman, has been elected to manage the institution, which will be known as "The Emergency Hospital of Frederick County." Dr. Thomas Cullen, Baltimore, held a clinic before the society November 11, and read a paper.

Baltimore.

Deaths of the Week.—There were 190 deaths for the week ended November 14, five only being from typhoid fever.

Personal.—Dr. A. L. Frank has been elected president of the Hebrew Orphan Asylum and Hospital, vice Menka Friedman, deceased.

Another Ginger Death.—A case of death from wood alcohol poisoning was reported here on November 7 in a woman who had taken several doses of Jamaica ginger for "internal trouble." The attending physician's certificate was confirmed, on examination, by the coroner.

Tuberculosis Exposition.—Preparations are being consummated for the tuberculosis exposition, to be held here in January, under the combined auspices of the tuberculosis commission, the State Board of Health, and the Maryland Public Health Association. Details are in charge of Dr. W. S. Thayer, president of the commission; Mr. John M. Glen, secretary; Dr. John S. Fulton, secretary of the State Board of Health, and Dr. Marshall L. Price. Dr. Henry B. Jacobs has been elected chairman, and 250 prominent professional men and laymen have been asked to act as an advisory committee. A series of

lectures will be given, the object of which will be to present the extent and effects of the disease in a striking manner. The prevalence of the disease, its incidence on certain occupations and trades, and the various hygienic and personal factors which influence its spread will be shown. The pathologic exhibit will be arranged to show the effects of the disease on the various organs. Tuberculosis in the lower animals will also be fully illustrated. One section of the exhibit will be devoted to the various appliances used in the treatment and cure of tuberculosis. Hospitals and sanatoria will be illustrated by means of plans, elevations, photographs, models and by tables illustrating the cost and results of treatment. A number of special appliances will be shown for open-air treatment, among them portable houses, tents and special sleeping devices. This exposition will be the first of its kind ever held, and already has aroused considerable interest among physicians in this country and abroad. Among the sanatoria exhibited will figure about 75 American institutions and about 30 from abroad, of the latter the largest contingent will be furnished by Germany, the remainder being from France, England, Switzerland, Austria and Norway. The largest exhibit of the statistical and economic sides of the question will be furnished by Maryland. The influence of the disease on the birth-rate and school attendance, and the public and private cost, will be shown by means of charts and diagrams.

OHIO.

Adds Obstetric Department.—The Cincinnati City Hospital has added a department of obstetrics to be under the charge of Drs. William H. Taylor and George M. Allen.

Diphtheria.—Schools in Troy have been closed because of diphtheria.—Out of 39 children at the Holy Family Orphanage, Cleveland, 15 are said to be ill with diphtheria.

Personal.—Dr. Christian R. Holmes has resigned from the commission appointed to build the new city hospital, Cincinnati. Dr. Byron Stanton was appointed to fill the vacancy.

Change City Physicians.—The twelve district physicians formerly in the employ of Cleveland have been replaced by six, and the salary of five has been increased to \$600 per annum. The physician for the first district, on account of extra duties, has a salary of \$1,000.

Room for More Patients.—The board of medical advisers of the Cincinnati City Hospital, on the advice of the chief of staff, have thrown open three wards previously used as nurses' quarters, and have secured a building near by, to be used exclusively as a nurses' home.

Smallpox.—There are said to be 15 cases at Folk Station on the Cadiz branch of the Panhandle Railway.—The State Board of Health has been notified of 20 cases at Alliance, 10 at Marion, and 8 or 10 at Columbus Grove.—Portsmouth has quarantined against the districts affected with smallpox.

Staff Physicians Elected.—The election of staff physicians for the Cincinnati City Hospital resulted as follows: Physicians—Drs. George A. Fackler, Joseph Eichberg, E. W. Mitchell, Oliver P. Holt; neurologists—Drs. H. H. Hoppe, Frank W. Langdon; surgeons—Drs. N. P. Dandridge, Joseph Ransohoff, E. W. Walker, John C. Oliver; orthopedic surgeons—Drs. A. H. Freiberg, C. E. Caldwell; dermatologists—Drs. A. Ravogli, C. S. Evans; laryngologists and aurists—Drs. S. E. Allen, J. W. Murphy; oculists—Drs. Robert Sattler, D. T. Vail; obstetricians—Drs. W. H. Taylor, G. M. Allen; gynecologists—Drs. Charles A. L. Reed, John M. Withrow, C. L. Bonifield, Sigmar Stark; pathologists—Drs. H. W. Bettmann, Arch I. Carson; pediatricists—Drs. Allen G. Poole, B. Knox Rachford; neuropathologist—Dr. David I. Wolfstein; clinical pathological laboratory and museum—Drs. John E. Greiwe, director, William H. Crane, James R. Rowe, Carl Hiller, Alfred Friedlander, Horace J. Whitacre, Frank E. Fee; physician to the Branch Hospital—Dr. B. F. Lyle, assistant Dr. Cook; resident physician—Dr. John E. Stemler.

TENNESSEE.

College Opens.—Tennessee Medical College, Knoxville, opened for its fall session November 2.

Tribute to Dr. Mitchell.—Tributes were paid to the memory of the late Dr. Robert Wood Mitchell of Memphis in resolutions adopted by the Memphis and Shelby County Medical Society at a special meeting held November 3.

Society Elects Officers.—At the annual election of officers of the Greene County Medical Society, Dr. Claude P. Fox, Greeneville, was elected president; Dr. I. B. Brown, Mosheim, vice-president, and Dr. S. Walter Woodyard, Greeneville, secretary.

Knoxville Mortality High.—The report of the Knoxville Board of Health for October shows the highest death rate for that month since 1898. The deaths numbered 47, equivalent to an annual death rate of 14.10 per 1,000. Pneumonia heads the list, with tuberculosis a close second.

Personal.—Dr. Charles Brower, Nashville, has been seriously ill with septicemia resulting from an infected wound received during a surgical operation.—Dr. J. Sinclair Dye has been selected as city physician of Chattanooga, to assume office at the expiration of the term of Dr. Edward R. Wise, January 1, 1904.

Smallpox.—Robertson County has 23 cases and several points of exposure.—Lilly Bluff School, near Langford, has been closed on account of the disease.—The secretary of the State Board of Health fears that there will be a great deal of smallpox in East Tennessee this winter.—Cumberland County has its first case in two years.—In the Knoxville Isolation Hospital 100 cases are under treatment.

TEXAS.

Smallpox.—The health officer of Harrison County reports 13 cases of smallpox and 2 suspicious cases in the Harleston neighborhood in the western part of the county.—Marshall has two cases.

Portrait Presented to Health Department.—On request of Dr. Tabor, the family of the late Dr. Walter F. Blunt, who was connected with the state quarantine service for over a quarter of a century, has given a large well-framed crayon picture of the Doctor.

Yellow Fever Abating.—Dr. George R. Tabor, state health officer, reports the yellow-fever situation as follows:—

Actual conditions in Texas are as follows: About 700 cases, with 60 deaths in Laredo; 18 cases, 8 deaths in San Antonio, with no case reported in San Antonio for seven days; 5 cases, 2 deaths in Dewitt County.

These are the only places of infection in Texas, and it is a true statement of existing conditions. Two frosts have fallen in Bexar and Dewitt counties. Conditions are favorable in Bexar, and I apprehend no further cases. Cases in Dewitt County confined to one house, with no other house nearer than one mile. Disease is ended there. Laredo is well quarantined.

There is no danger whatever to people coming to Texas, as our quarantine will amply protect other sections of the state. We hope to be able to give San Antonio a clean bill of health within a few days. The state and federal governments are co-operating at Laredo, and hope to exterminate the infection there soon.

VIRGINIA.

The Seaboard Medical Association of Virginia and North Carolina will meet in Norfolk, December 15, 16 and 17.

Wage War Against Irregulars.—The Norfolk Medical Society, at its meeting, November 10, appointed a committee to investigate charges against illegal practitioners of the city.

Personal.—Dr. W. Armistead Gillis, Petersburg, has received an appointment in the laboratory of the Bureau of Medicine and Surgery, U. S. Navy.—Dr. George Walke Wallace, Norfolk, after a period of ill health, has resumed practice.—Dr. Charles G. Cannaday, Roanoke, has been presented with a gold-headed cane by the exhibitors at the Virginia Medical Society meeting.—Dr. Albert S. Priddy, Marion, has moved to Bristol, Tenn.—Dr. E. C. S. Taliaferro, Achilles, has returned from Europe and is practicing in Norfolk.

WASHINGTON.

Fire Destroys Hospital.—A fire which caused a loss of more than a million dollars at Aberdeen, Wash., destroyed two buildings of the Grays Harbor Hospital.

Physician Injured.—Dr. W. C. Pallister, local surgeon of the Northern Pacific Railway at Kennewick, jumped from a train in motion, and sustained serious contusions and wounds.

Typhoid at Yakima.—The State Board of Health, which has been investigating the typhoid fever situation at North Yakima, reports a deplorable sanitary condition of the city; that about 200 cases of the disease exist in the city and vicinity, and that the death-rate is high.

Still in the Dark Ages.—Colfax is said to be wrestling with the vaccination problem. The State Board of Health has issued an order that all school children be vaccinated. It is reported that many Colfax people resent the order, consider it unconstitutional and are raising funds to make a test case.

WEST VIRGINIA.

Quarantine Lifted.—The smallpox quarantine which closed the Broadus Institute, Clarksburg, for nearly a month, was

lifted November 4. Two students had smallpox, and two or three others what was called varioloid.

Smallpox Rages.—Kenova and Ceredo have epidemics. In Ceredo there are 50 cases, with 4 deaths. Both towns are quarantined against by Huntington, Catlettsburg and Ashland. From November 2 to November 4, 7 new cases were reported in Kenova, and 12 new cases in Ceredo.

Hospital Opened.—The Davis Memorial Hospital, Elkins, built by the late Henry G. Davis and wife, at a cost of \$85,000, as a memorial to their son, who was drowned off the coast of Africa, was opened October 8. Dr. William W. Golden is superintendent and surgeon-in-charge, Dr. M. S. Wilson assistant resident physician, and Drs. William Osler, Thomas S. Cullen, Louis McL. Tiffany, and Frank Martin, Baltimore, are on the consulting staff.

State Board of Health Speaks.—The State Board of Health, after summarizing the smallpox situation in the state, and noting the increase in mortality from 12 to 20 per cent., recommends vaccination and revaccination and the exclusion from school of children who have not been vaccinated or who have not fully recovered from infectious diseases. Superintendents of state institutions are directed to have all inmates and employes vaccinated and to admit persons only with the greatest precautions against infection.

WISCONSIN.

Smallpox in Indians.—Smallpox has broken out among the Winnebago Indians who are in camp near Portage.

All Have Registered.—Every physician in Douglas County has either passed the prescribed examination or has registered.

Loving Cup Presented.—At the recent meeting of the Central Wisconsin Medical Society at Janesville, Dr. Joseph B. Whiting of that city was presented with a silver loving cup by the society.

Opens Sanitarium for Children.—Dr. Mary E. Pogue has opened a sanitarium at Lake Geneva, Wis., for the treatment of children suffering from nervous and mental defects. Supporting Dr. Pogue as a supervisory board are Drs. Daniel R. Brower, Sanger Brown, Archibald Church, W. S. Christopher, H. V. Halbert and William G. Stearns. Kindergarten, medical and corrective gymnastics, the correcting of speech defects, articulation, counting of beads and the less exhausting methods of mathematics, modeling in clay, basket and mat weaving and the control and understanding of self are to be taught, each child receiving individual instruction.

GENERAL.

Southern Medical College Association.—There will be a meeting of this association in the Piedmont Hotel, Atlanta, Ga., December 14, at 10 a. m. All southern medical colleges not already members and which desire to affiliate with this association, are requested by the secretary, G. C. Savage, M.D., 139 N. Spruce Street, Nashville, Tenn., to file application at this meeting.

The Warren Triennial Prize (founded by the late Dr. J. Mason Warren in memory of his father) of \$500 will be awarded in 1904 for the best dissertation on some subject in physiology, surgery or pathologic anatomy; the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. A high value will be placed on original work. Competing essays must be legibly written, and suitably bound, so as to be easily handled. The name of the writer must be inclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying essay. Any clue given by a dissertation or by a writer which reveals his name before the award of the prize will disqualify him. If no essay is considered worthy, no award will be made. April 14, 1904, is the last day on which manuscripts may be received by Dr. Herbert B. Howard, resident physician, Massachusetts General Hospital, Boston.

CANADA.

British Columbia Examination.—Of the 13 candidates before the examiners of the British Columbia Medical Council this month, 11 were successful.

More Montreal Smallpox.—The Montreal Civil Smallpox Hospital, which has been closed for some time, is again open with 10 patients, all of whom it is asserted came from outside places.

In the Montreal General Hospital, in October, there were admitted to the wards 250; discharged, 229; deaths, 12; average daily sick, 190. There were 2,532 consultations in the

outdoor departments. Typhoid fever cases have decreased to 24.

Ottawa Medico-Chirurgical Society Formed.—This society is formed by the union of the two medical societies of Ottawa, and the first meeting occurred November 5. Dr. H. Beaumont Small delivered the presidential address on "Medical Memoirs of Bytown," the old name of Ottawa before it became the capital of the dominion. The society will meet on the first and third Thursdays of each month. Sir James Grant, M.D., is the honorary president.

Personal.—Dr. M. O. Klotz, Ottawa, a graduate of Toronto University, will be appointed governor's fellow in pathology at McGill University.—Dr. J. C. Mitchell, ex-president of the Ontario Medical Association, assistant physician at the Toronto Asylum for the Insane, has been appointed by the Ontario government medical superintendent of the new epileptic hospital now being erected at Woodstock, Ont. Dr. Mitchell has been granted four months' leave of absence to visit similar institutions.

St. John Physicians Arrested for Not Reporting Births.—The law in New Brunswick formerly required the parents, a clergyman or the attending physician to report a birth. On the ground that the physician can better serve the cause of vital statistics, the law was amended so as to make this duty devolve on him. One day last week nearly all of the physicians of St. John appeared in the police court, summoned because of neglect to comply with this law. There being no compensation, the physicians have resented the law and seem not to have obeyed it.

British Columbia Medical Society.—The fourth annual meeting took place at Victoria, October 30 and 31, under the presidency of Dr. O. M. Jones, Victoria. Several physicians were present from the state of Washington, and took a lively part in the discussions. The presidential address dealt chiefly with medical education, deplored the money-making tendency of the modern medical college, and advocated raising the ideal of medical teaching and the maintenance of the noblest ethics of the profession. The following were the officers elected: President, Dr. A. P. Proctor, Kamloops; vice-president, Dr. Boyle, Vancouver; secretary, Dr. B. Jack, Vancouver.

Toronto Has Excellent Water.—A series of bacteriologic analyses of Toronto's drinking water have been made for four months. The highest rate reached was on September 30, when 1,120 colonies were registered per cubic centimeter, but these were mostly water forms, no gas-forming bacilli occurring. The lowest register was on October 24, the number reaching 240. Ten years ago the analysis used to show 20,000. It is thought that this record can not be beaten on this continent. Records have been kept weekly in the health department since 1893. The improvement in the water in the last ten years is due to the steel section of the conduit from the lake having replaced the old wooden one, and to the new settling basin.

Toronto Dispensary for Consumptives To Be Established.—The National Sanitarium Association has announced, with especial approval of the medical profession of Toronto, their intention to establish in Toronto a free dispensary for outdoor consumptive patients. In the same building it is proposed to have a lecture hall for students. The Toronto Free Consumption Hospital, now being erected about five miles away, and which will have accommodation for fifty patients, is almost completed. In connection with this hospital there are about forty acres of land, and the expenditure will reach \$25,000, but another \$25,000 is to be further spent, and toward this purpose a committee of prominent Toronto citizens are collecting funds.

FOREIGN.

Medical Affairs in Holland.—The present government of Holland is strongly in favor of homeopathy and faith healing, and loses no opportunity to discredit the medical profession. The authorities have even gone so far as to invite to the chair of pharmacognosy and pharmacodynamics at the University of Leyden a certain Mende-Ernst of Zurich, formerly a minister, well known throughout Switzerland as a charlatan and homeopath. The call was made at the instance of the prime minister, under protest from the faculty.

Resignation of Eulenburg.—The *Deutsche Med. Wochenschrift* was founded in 1871 by P. Börner at Berlin, and conducted after his death by S. Gutmann, until the latter died in 1893. Since that year this model medical journal has been in charge of Prof. A. Eulenburg, Geh. Med.-Rath, and of Professor J. Schwalbe. We regret to learn that Eulenburg's other duties have compelled him to sever his connection with

the journal. His resignation is to take effect at the close of the year. He has been one of the pioneers in the closer organization of the medical press in his own country and throughout the world.

The Austrian Trouble.—In Austria the government, through its representatives in parliament, seems to have publicly identified itself with the ignorant enemies of science and progress. Our Austrian exchanges comment with grief on this disgrace to their country. The culmination of the trouble was reached in a discussion of vivisection in the lower Austria Landtag. Several members, including the speaker of the house, accused the members of the medical profession, especially certain world-famous Vienna professors, of experimenting on poor patients and of other obnoxious practices in the line of vivisection. The matter was referred to a committee whose report recommends that all the laboratory animals should be removed from the clinics of the gynecologists Chrobak and Schauta. The dean, Professor Weichselbaum, and the other members of the faculty have publicly protested against this measure and the profession throughout Europe is watching aghast this dark cloud that is obscuring the brilliancy of the famous Vienna school. A public meeting of protest has been held at Vienna by the students and professors, and the medical chamber passed a unanimous resolution that the members of the national health service should resign in a body. The minister of education has tried to conciliate the profession, urging them not to take the words of the speaker of the house too seriously and exaggerate their import. Our Berlin exchanges quote Billroth's complaints of the indifference if not actual enmity of the legislators, even as long ago as 1874, and the conditions have evidently not improved since then. It is only a few weeks ago that the Austrian authorities decreed that cancerin should be tried on an extensive scale in certain Vienna hospitals, as mentioned at the time in this column.

Correspondence.

The Red-Light Treatment of Smallpox.

PHILADELPHIA, Nov. 14, 1903.

To the Editor:—I deem it proper to briefly reply to Dr. Finsen's article on "The Red-Light Treatment of Smallpox," which appeared in the last number of THE JOURNAL.

I wish to make public acknowledgment that I have done Dr. Finsen an injustice in stating that the red-light treatment did not originate with him. A treatment, which in effect was a sort of red-light treatment, was certainly employed by John of Gaddesden, but Dr. Finsen calls attention to the fact that the exclusion of the actinic rays of the sun was not its purpose, and that the red blankets and hangings, in all probability, did not exclude all daylight.

As to the value of the so-called red-light treatment, I am more convinced than ever of its inutility as additional clinical evidence comes to hand. I regret very much that Dr. Finsen did not discuss some of the theoretical objections to his theory. It appears to me that one of the strongest arguments against the correctness of Finsen's view is that the negro, whose skin is protected against the entrance of actinic solar rays by a blackish pigment—a far better barrier than red screens—is just as liable to die from smallpox or to be pitted by the disease as his white neighbor. Dr. Finsen has himself stated that "pigmentation constitutes a defense against the effects of the chemical rays." If his statement is true, and if the negro is not protected (which is an irrefutable fact) then the conclusion is imperative that chemical rays of light have nothing to do with pustulation in smallpox.

In support of his red-light treatment, Finsen quotes the results of treatment of 150 cases of smallpox in northern Europe. How often in the history of medicine have wonderful powers been attributed to therapeutic agents because of apparent clinical results. Rectal injections of hydrogen sulphid, the original tuberculin and a host of once loudly-acclaimed measures and drugs have after a time been lost sight of. Dr. Nelson D. Brayton, Indianapolis, has observed many cases of smallpox treated in red-light wards. He writes: "With an experience of at least 300 cases, I regret that I also must corroborate the results that Dr. Welch and Dr. Schamberg arrived at in Philadelphia, in the two cases in which they

tried the red-light treatment of the disease, and say there is nothing in it. While it may sound well in theory and look beautiful in practice, it is nevertheless true that the dead are still removed, and the pitted and scarred still recover in a red-light hospital."

In order that the truth may be arrived at, it is important that negative and unfavorable results, as well as the successful ones, should be brought to public attention.

1636 Walnut Street.

JAY F. SCHAMBERG, M.D.

Dose of Carbohc Acid and Dosage in General.

NEW YORK, Nov. 14, 1903.

To the Editor:—In reference to the dose of carbohc acid, I should like to say that I personally know a patient who is taking one-half dram, or 30 minims, of pure liquefied carbohc acid at a dose two or three times a day. He has been taking it for some time, and with apparent great benefit. Of course, he has reached the dose gradually, starting with one or two minim doses. I might take this opportunity to add that our so-called science of posology is in an uncertain, chaotic condition, and that no intelligent physician, who is able to watch and interpret effects, should be hampered by book doses. He need not be afraid of being styled a homeopath, if he thinks he gets good effects from and, therefore, prescribes doses much below the accepted minimum; nor, on the other hand, should he hesitate to order doses much above the dispensatory and dose-book maximum if he thinks such doses are demanded by the exigencies of the case. I have more than once prescribed doses which staggered the druggist—such as one ounce of bismuth subnitrate at a single dose, in gastric ulcer, 1/20 gr. of atropin sulphate in suspected intussusception—but which produced the happiest results on the patient. It would be well if the various board examiners gave a little more latitude to the candidates in the subject of posology.

WM. J. ROBINSON, M.D.

The County Society and the Index Medicus.

ELKTON, Md., Oct. 30, 1903.

To the Editor:—The Cecil County (Md.) Medical Society has subscribed to the *Index Medicus*. I have thought that if a good proportion of the county societies would become interested in this matter, and follow the example of this Maryland society, the continued existence of this important journal would be assured. We propose to deposit the numbers in a public place accessible to all our members. I take it that making a universal index of medical literature available to the mass of the profession can not fail to have far-reaching results beyond the demonstration of the ability of organization in creating and sustaining great professional enterprises.

CHARLES M. ELLIS, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE HIPPOCRATIC OATH.

WISCONSIN, Nov. 13, 1903.

To the Editor:—Will you kindly give me the form of the oath or obligation that is administered to all graduates in medicine?

D. D.

ANSWER.—Our correspondent probably refers to the Hippocratic Oath, which is as follows:

"I swear by Apollo the physician and Esculapius and Health, and All-heal and all gods and goddesses, that, according to my ability and judgment, I will keep this Oath, and this stipulation to reckon him who taught me this art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required, to look on his offspring in the same footing as my own brothers and to teach them this art, if they shall wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by stipulation and oath, according to the law of medicine, but to none others. I will follow the system of regimen which, according to my ability and judgment, I consider for the benefit of my

patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, of freemen and slaves. Whatever in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art respected by all men in all times. But should I trespass and violate this Oath, may the reverse be my lot."

A modified form of this oath was administered this year to graduates in medicine of the Syracuse University; this was published in THE JOURNAL, July 4, 1903. It is not usual to administer any oath in the majority of medical colleges. The graduates are supposed to be instructed as to their ethical obligations and expected to fulfill them.

TREATMENT OF GONORRHEAL ANKYLOSIS OF KNEE

WEATHERFORD, TEXAS, November, 1903

To the Editor:—What is your advice in a case of ankylosis of knee from gonorrheal arthritis? (Jan. 11, 1903.) The patient is a young man, aged 23, general health good; he has been up six months, has been at work some two months, has had every means of treatment except surgical, including 30 treatments by dry hot air. The knee is flexed 5 9/16 inches while the patient is lying on a horizontal plane. It is impossible to get any movement in the knee. It swells a little during the day's use.

DR. ROBERT R. NORWOOD.

ANSWER—If under anesthesia the ankylosis of the knee is found to be bony, nothing can be done, unless the angle of deformity is so great as to warrant an open operation in order to correct this, in which case, of course, the knee would be stiff in its new position. If the adhesions are not bony, but can be broken up under an anesthetic, this should be done. The knee should then be bandaged—not too tightly—with a rubber bandage and enclosed in hot fomentations to relieve the pain and prevent too much swelling. These after the joint should be moved at least once a day, in order that the adhesions may not reform, and the dressing should then be reapplied. This will be very painful, and will require a great deal of perseverance on the part of the surgeon, and of endurance and grit on the part of the patient, to thoroughly carry it out. It will also require several months' treatment.

Marriages.

MYRON L. HUNTINGTON, M.D. to Mrs. Jennie Garrett, both of Moline, Ill., November 5.

M. BOWMAN HOOD, M.D., to Miss Mabel Glyndon Joyner, both of Baltimore, November 4.

JOHN A. BAUER, M.D., to Miss Elizabeth Schlarmann, both of Germantown, Ill., October 28.

RICHARD L. NEER, M.D., Baltimore, to Miss Effie Maude Bennett, at Portland, Ore., November 3.

EMMETT J. CRAIG, M.D., U. S. Army, to Miss Annie Laurie Miller of San Diego, Cal., November 1.

LEONARD C. CHAMBERLAIN, M.D., to Miss Jeannette G. Drysdale, both of New Orleans, La., November 11.

FRANCIS S. FURMAN, M.D., Shreveport, La., to Miss Sarah Chandler, at Johnson City, Tenn., November 4.

VOLNEY McR. SHOWALTER, M.D., Point Clear, Ala., to Miss Charlotte McGraw, at Bradford, Pa., November 3.

FRANK TORNHOLM, M.D., Wahoo, Neb., to Miss Anna Josephine Pierson of South Bend, Ind., October 28.

AUGUST E. KROENING, M.D., Lincoln, Ill., to Miss Nellie Bellmar of Springfield, at Wilmington, Ill., October 28.

Deaths.

GEORGE JULIUS ENGELMANN, M.D.

George Julius Engelmann, M.D., Boston, died suddenly in Nashua, N. H., November 16, aged 56. While on a brief vacation he caught cold, pneumonia developed rapidly and all treatment was unavailing. He leaves a wife and three children. The burial took place yesterday in St. Louis.

Dr. Engelmann was born in St. Louis, July 2, 1847, and received his early education at Washington University, from

which he graduated with the degree of master of arts in 1866. He took a medical course at the universities of Tuebingen, Berlin, where he obtained his medical degree in 1871, and in Vienna, where he obtained a degree of master of obstetrics a year later. He served as surgeon in the Franco-Prussian War and returned to St. Louis in 1873, where he practiced until 1895. His practice was devoted almost exclusively to gynecology and obstetrics. In 1895 he moved to Boston. He was an extensive traveler, and as a recreation made researches in the lines of ethnology and archeology. His collection of Missouri flints and pottery, which is now in the Peabody Archeological Museum in Cambridge, Mass., is justly renowned. He was a member of the American Medical Association, president of the American Gynecological Society in 1894-5, honorary president in 1884, and president in 1900 of the Gynecological Section of the International Medical Congress, honorary president of the International Congress of Obstetrics and Gynecology in Brussels, 1892, and in Amsterdam, 1899. He was president of the Boston Obstetrical Society, and a fellow of the British Gynecological and London Obstetrical societies.

He was professor of the diseases of women in the Missouri Medical College, St. Louis, and in the Post-Graduate School



GEORGE JULIUS ENGELMANN, M.D.

of Medicine in that city. He was a strong and forceful writer and chief among his contributions to literature are his works on "Mucous Membrane of the Uterus," published in 1875, on "Labor Among Primitive Peoples," 1882, which passed through two editions in English and was translated into French and German, and monographs in the line of his specialties.

Lucius Gillette Thompson, M.D. Starling Medical College, Columbus, Ohio, 1849, one of the founders of the Illinois State Medical Society, and first vice-president of the North Central Illinois Medical Association, died at his home in Lacon, Ill., October 30. In company with the late Dr. Robert Boal he drove from Lacon to Springfield in June, 1850, in response to a call for a state medical convention issued by the Ottawa Medico-Chirurgical Association. At this meeting 16 physicians were present, and the state society was organized. At its semi-centennial in 1900 Drs. Boal and Thompson were the sole survivors of those who organized the society.

Henry A. Clarke, M.D. Rush Medical College, Chicago, 1875, died suddenly at his home in Pueblo, Colo., October 18. At a meeting of the Pueblo County Medical Society, October 20, resolutions testifying to the worth of Dr. Clarke were adopted.

August C. Sapper, M.D. Missouri Medical College, St. Louis, 1893, chief of the medical staff of the Lutheran Hospital, St. Louis, died in that institution, November 8, from malignant disease, after an illness of five months, aged 35.

J. McFadden Gaston, M.D.—As we go to press we learn that Dr. J. McFadden Gaston, the noted surgeon of Atlanta, Ga., died at his home November 15, aged 79. An extended notice will appear in the next issue of THE JOURNAL.

William Wallace Seely, M.D. Medical College of Ohio, Cincinnati, 1864, professor of clinical ophthalmology and otology in the Medical College of Ohio, died at his home in Cincinnati, November 8, after a long illness, aged 66.

Emil Rosenberg, M.D. University of Berlin, Germany, 1855, senior medical examiner of the Northwestern Mutual Life Insurance Company, died at his home in New York City, November 4, aged 74.

Noah D. Jenkins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1886, died at his home in Mark, Iowa, November 5, from the effects of the excessive use of liquor and drugs, aged 55.

E. C. Walters, M.D. Jefferson Medical College, Philadelphia, was found dead in his office in Washington, Pa., November 5, aged 35. Death is supposed to have been due to alcoholism.

Franklin von Artsdalen, M.D. Jefferson Medical College, Philadelphia, 1857, died at his home in Philadelphia, November 15, from kidney disease of long standing, aged 69.

Benjamin A. Andreas, M.D. Jefferson Medical College, Philadelphia, 1888, died suddenly at his home in South Bethlehem, Pa., October 26, from heart disease, aged 43.

Augustus Remick, M.D. Harvard University Medical School, Boston, 1868, a member of the American Medical Association, died in Providence, R. I., October 5, aged 64.

John Craig Nevins, M.D. Jefferson Medical College, Philadelphia, 1874, died at his home in Summit Hill, Pa., October 26, after an illness of nine months, aged 64.

Benjamin F. Sheeder, M.D. Jefferson Medical College, Philadelphia, 1893, died recently at his home in Saline, Mich., after an illness of two years from paralysis.

Nathaniel Jewett, M.D. Eclectic Medical College of the City of New York, 1871, died at his home in Ashburnham, Mass., November 3, after a long illness.

Morgan Clements, M.D. Jefferson Medical College, Philadelphia, 1848, died at his home near Tuscaloosa, Ala., November 1, after a short illness, aged 78.

James R. Sims, M.D. Eclectic Medical Institute, Cincinnati, 1883, Memphis Hospital Medical College, 1889, of Du Quoin, Ill., died October 11.

William R. Jenkins, M.D., of Freeman, Mo., died at the University Hospital, Kansas City, Mo., October 28, from cystitis, aged 48.

Samuel Henry Warren, M.D. University of Buffalo, 1880, of Buffalo, died from alcoholism at Riverside Hospital, Buffalo, October 29.

Louisa May Shryock, M.D. University of Wooster, Cleveland, 1893, of Butler, Pa., died at North Washington, Pa., November 3, aged 36.

David A. Pease, M.D. Cincinnati Medical College, died at his home in Twin Bridges, Mont., November 3, from heart disease, aged 72.

William H. H. Jackson, M.D. Cleveland Medical College, 1868, died suddenly at his home in Oil City, Pa., October 31, aged 63.

John Herbert Trout, M.D., Canada, of Toronto, Ont., died at Dubuque, Iowa, November 1, after a long illness, aged 29.

George Tallmadge Brown, M.D. New York University, 1879, died at his home in Margarettsville, N. Y., October 30.

Horace E. Jones, M.D. Barnes Medical College, St. Louis, 1899, of Thompsonville, Ill., died October 16.

Frank Judson, M.D., 1891, died at Dixon, Ill., October 28, after a surgical operation, aged 36.

Marcus L. Schlesinger, M.D. University of Moscow, Russia, 1890, of Chicago, died October 7.

Herman Rakemus, M.D. Rush Medical College, Chicago, 1878, of Chicago, died recently.

Adelia Barlow Diven, M.D., 1877, died at her home in Chicago, November 7, aged 59.

Franklin Hollen, M.D., 1878, of Clay County, Ill., died October 14.

Bennett F. Hopkins, M.D., 1893, of Rapatee, Ill., died recently.

Marcus L. Brown, M.D., 1877, of Enfield, Ill., died October 13.
James C. Scott, M.D., 1887, of Waynesville, Ill., died recently.
Edward R. Roe, M.D., 1881, of Chicago, died in October.
A. M. Ross, M.D., 1892, of Argenta, Ill., died recently.

Miscellany.

Improvement in Vital Statistics.—Effective co-operation has been instituted between the American Medical Association, the American Public Health Association, the Conference of State Boards of Health, the United States Census Bureau and the United States Public Health and Marine-Hospital Service for the improvement of the vital statistics of this country. Among the objects sought are the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau, requests for which should be addressed to Mr. W. A. King, chief statistician for vital statistics, Census Bureau. It has special reference to the difficulties encountered in compiling deaths returned from several causes, and asks for the co-operation of the profession in framing a thoroughly satisfactory method of procedure in such cases.

Improved Local Antitoxin Treatment of Tetanus.—J. A. Sicard of Paris was the first to administer tetanus antitoxin by the lumbar subarachnoid route, and besides the 20 cases published by Vallas last year he knows of 6 cases thus successfully treated (2 personally observed), with another which terminated fatally. Experimental research has also established the possibility of curing even severe tetanus by subarachnoid injection of the antitoxin. Two dogs were saved in this way, while by the other routes none were saved in severe infection. Marie and Morax have recently announced that tetanus toxin besides being carried to the brain by the blood, may reach it by way of the peripheral nerves. The impregnation must occur by way of the cylinder-axis, as the cerebrospinal fluid does not become toxic even after subcutaneous injection of large amounts of the toxin. The cylinder-axis conveys the toxin just as it conveys in the opposite direction the trophic current. It is thus able to convey a toxin, a soluble ferment, but not microbial elements. The fact that the tetanus symptoms commence with trismus in man and in the injured limb in inoculated animals is proof of the correctness of this assumption. The peripheral nerves absorb the tetanus toxin from the lymph spaces around and transmit it to the brain as a plant takes up the water from the soil. Sicard applied these new data to the treatment of the disease in his 2 last cases mentioned above, supplementing the subarachnoid injection of the antitoxin by injections, not only at the point of the injury but along the nerve trunks—an amplified form of local treatment. By these injections *para-nerveuses périphériques*, as he calls them, he follows the toxin along its route. Both his patients thus treated promptly recovered. He advises 5 to 10 c.c. of the antitoxin injected around the wound; then 15 to 20 c.c. injected along the peripheral nerves, both the large and the medium, especially in the wounded limb, and the same amount injected into the subarachnoid space. Forty-eight hours later the injections may be repeated with the same doses, and again if needed, but the subarachnoid injections should not be repeated more than once.

A Roman Catholic's View of the Medical Profession.—In the *Ecclesiastical Review* for September is a chapter from the serial "In Father Martin's Library," from which we quote the following conversation: "The ethics taught in our medical schools are in some respects admirable, and, perhaps, superior to those of any other learned profession. They inculcate a delicate regard for personal feelings, a vigorous exclusion of purely mercenary methods, the duty of safeguarding the interests of a patient, the keeping of secrets, and the maintenance of a recognized professional etiquette, not only toward brother physicians, but toward the ministers of religion. In-

deed, I have often thought that the readiness with which the average physician holds himself bound to answer a call to duty at the sick-bed or in emergency cases, even when it demands of him personal sacrifice out of all proportion to the remuneration held out, might serve us priests as a model when we are called by our poor people to administer to them the comforts of religion, which they covet even more than bodily relief or health.' 'I should suppose that a physician's reputation, and consequently his practice, depend on such conduct,' I said tentatively. 'Assuredly. But there are other motives that operate in most cases, and which indicate a naturally more sensitive or compassionate—I should say, perhaps, religious—disposition of mind. In the first place, the very attraction that leads a man to take up the profession of medicine betokens ordinarily a sympathetic nature. It is true that the methods of the dissecting room tend to brutalize a disposition naturally coarse or reckless; but for this the actual suffering which subsequent experience reveals to the practitioner in a thousand different forms of light and shade, furnish a strong antidote. No man, unless it be the priest who has to administer to a large community of needy souls, sees so much of the inner workings of human life, the true and false, as does the physician; and, if his mind be open, it can not but arouse in him motives which tend toward the real, the permanent, as opposed to the unrealities of our temporary existence. And this I hold to be the preamble to religion, as much as reflection is a condition of all spiritual consciousness and activity, etc., etc.'"

Book Notices.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Hend, M.D., Professor of Laryngology and Rhinology. Chicago Post-Graduate Medical School. Vol. VIII. *Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, Forensic Medicine.* Edited by George F. Butler, Ph.G., M.D.; Henry B. Favill, A.B., M.D.; Norman Bridge, A.M., M.D.; Daniel R. Brower, M.D., and Harold N. Moyer, M.D. July, 1903. Vol. IX. *Physiology, Pathology, Bacteriology, Anatomy, Dictionary.* Edited by W. A. Evans, M.S., M.D.; Adolph Gehrmann, M.D., and William Healy, A.B., M.D. August, 1903. Vol. X. *Skin and Venereal Diseases, Nervous and Mental Diseases.* Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1903. Cloth. Pp. 326, 233 and 236 Respectively. Price, \$1.50 and \$1.25 Respectively. Chicago: The Year-Book Publishers.

In the July number of this series we have "*Materia Medica and Therapeutics*" by Dr. George F. Butler, who reviews the literature very thoroughly. A useful portion of the work is a list of the new proprietary remedies taken from *Merck's Archives*. "*Preventive Medicine*" is ably treated by Dr. Favill, and "*Climatology, Suggestive Therapeutics and Forensic Medicine*" by such well-known writers as Drs. Norman Bridge, Brower and Moyer. In the August issue we have the subjects of "*Pathology*" by Dr. W. A. Evans and "*Physiology, Bacteriology and Hygiene*" by Dr. Gehrmann. In conclusion a supplement to the medical dictionaries, containing the new medical terms, is furnished by Dr. William Healy. The usefulness of this last addition is apparent. In the September number Dr. W. L. Baum reviews the literature of skin and venereal diseases. This part of the work is well illustrated. Nervous diseases are treated of by Dr. H. T. Patrick, assisted by Dr. Charles L. Mix, who give the gist of what is new in this subject within the past year. The contribution to the subject of mental diseases is rather brief. This portion of the work does not fully represent all the valuable literature that has appeared on this subject within the period covered. As a whole the volumes fully bear out the reputation of the preceding ones. The series is a most valuable one and unique in its convenience and inexpensiveness.

THE MEDICAL ANNALS OF MARYLAND, 1799-1899. Prepared for the Centennial of the Medical and Chirurgical Faculty. By Eugene F. Cordell, M.D., Baltimore. 1903. Cloth. Pp. 888. Baltimore: Williams & Wilkins Co. 1903.

There are few commonwealths that have had the opportunity to have their medical history so well compiled as Dr. Cordell has done in this work for Maryland. It gives a valuable résumé of the principal facts as regards medical practice

and medical history in the state during the nineteenth century. It is divided into three sections, the historical, the biographical and the chronological. The first gives the annals of the medico-chirurgical faculty—the state society—during its century of existence, with some notices of earlier organizations in the state. The second gives a brief biographic note of each member of the society so far as the records show from the beginning, making a total of about 2,400 persons. In the last section there is an account of the principal medical facts occurring in each year, and especially biographical notices of leading members of the profession in the state. The numerous portraits which embellish the text are a very valuable addition to the work and have evidently been carefully collected from the best available sources. It is something to know how our predecessors looked and the longer the time that has elapsed the more interest we have in them. The book is elegantly printed on excellent paper, its text is admirable and the industry and good judgment of the compiler are worthy of all praise.

ANALYSIS OF THE SEXUAL IMPULSE—LOVE AND PAIN—THE SEXUAL IMPULSE IN WOMEN. Third Volume in Series, "Studies in the Psychology of Sex." By Havelock Ellis, L.S.A. (England): Fellow of the Medical Society of New York and Anthropological Society of Berlin. Cloth. Pp. 266. Price, \$2.00 net. Philadelphia: F. A. Davis Company.

This is another volume in the series discussing sexual matters and is perhaps the most valuable one that has yet appeared. It treats of the fundamental principles and gives especial attention to an analysis of the sexual impulse in women. The many diseases and conditions in which the influence of sexual desire and gratification is sometimes discovered after having been ignored suggest the value of this book to the physician, especially to the neurologist. With his enthusiasm in and familiarity with the subject, Ellis goes into details that seem unnecessary and unpleasant—a criticism that would not be needed if the work were only placed in the hands of specialists.

THE NEUROLOGICAL PRACTICE OF MEDICINE. A Course of Selected Lectures in Neurology, Neurology, Psychology and Psychiatry. Applicable to General and Special Practice. With 177 Illustrations. After the Author's Class-Room Methods as a Teacher of Students. Designed for Students and General Practitioners of Medicine and Surgery. By Charles H. Hughes, M.D., President of the Faculty and Professor of Neurology, Psychiatry and Electrotherapy. Barnes Medical College. Cloth. Pp. 417. Price, \$3.00. St. Louis: Hughes & Co.

Dr. Hughes has published in this volume the first series of his lectures on neurology given in the Barnes Medical College. The book contains a useful demonstration of the neuron theory, the methods of examination in nervous diseases and the general anatomy of the nervous centers, touching also on some pathologic points. The lecture style is clear and the subject-matter is given in an interesting as well as an instructive manner. The work is amply illustrated, not overloaded with technical matter and for that reason is so much better for the student, while at the same time it successfully conveys the instruction that it is intended to give.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By Richard C. Cabot, M.D., Physician to the Out-patients, Massachusetts General Hospital. Second Revised Edition. With 147 Illustrations. Cloth. Pp. 319. Price, \$2.50 net. New York: Wm. Wood & Co. 1903.

Cabot's excellent work on diagnosis of diseases of the chest has won for itself a favorable place, and this edition will be welcome. For a convenient short manual on the subject we do not know of any work that is its superior. The present issue is beautifully gotten up and amply illustrated.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Proceedings in the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-fourth Annual Session at New Orleans.

Dosage of Liquid Medicines.

The following is the report of the Committee on Dosage of Liquid Medicines and the action taken thereon, as reported in THE JOURNAL, May 23, 1903, page 1455:

To the Section on Materia Medica, Pharmacy and Therapeutics of the American Medical Association:

Your committee, appointed at the last session of this Section to consider the recommendations contained in the paper entitled "Dosage of Liquid Medicines: a Simple Plan for Greater Accuracy and Metric Measurements," communicated by Carl S. N. Hallberg, Chicago, respectfully reports as follows:

That, after giving the subject due consideration, they find that Professor Hallberg's criticism on the common methods of designating dosage of liquid medicines is well founded and just, and that the remedy he suggests to overcome the present indefiniteness and uncertainty, namely, the adoption of a standard pipette for dropping doses, and standard metric equivalents for the teaspoon and tablespoon, will be likely to overcome these evils to a great degree, and will favor uniformity and accuracy in the administration of this class of pharmaceutical preparations.

That we recognize the fact that the metric equivalent of the modern teaspoon averages five cubic centimeters, and the tablespoon fifteen cubic centimeters, and would suggest that this fact shall be borne in mind by physicians in ordering doses of liquid medicines. The Philadelphia College of Pharmacy last year adopted the following resolution: "The use of properly made and accurately graduated glass dose measures is to be commended. These measures, however, are to be so constructed that the height of the contained liquid at a spoonful mark is greater than its diameter." Approving this recommendation, the committee has devised a graduated measure for domestic use, which it believes has especial advantages over the usual form of measuring glass. Externally, it is cylindrical; internally, it is cylindrical down to the 15 c.c. mark, and below this point it is an inverted cone. A slight projection or ridge on the inner surface indicates the level for 5 c.c., and another at the base of the inverted cone indicates the level for the 15 c.c. measure. The total capacity is 30 c.c. This is believed to be a convenient size and sufficiently large for the ordinary administration of liquid medicines, corresponding with one teaspoonful, one and two tablespoonfuls.

The committee also recommends the adoption of a standard medicine dropper or pipette, of 3 millimeters external diameter, which will deliver twenty drops of water, at 15 degrees C., which will measure 1 cubic centimeter when dropped at the rate of one per second, for the administration of doses less than the teaspoonful.

Your committee does not approve the suggestion to alter the values of some of the denominations of customary weights and measures, believing that such action might tend to confuse the subject rather than to facilitate the introduction of the metric method, which is the end desired.

[The report concluded with resolutions which were recommended for adoption by the Section. They are given below as finally adopted.]

FRANK WOODBURY,
AUGUSTUS A. ESHNER,
HORATIO C. WOOD, JR.,
Committee.

On motion the resolutions were adopted as follows:

To the House of Delegates: The following resolutions have been adopted by the Section on Materia Medica, Pharmacy and Therapeutics, and the delegate from that Section instructed to present them to the House of Delegates, with the recommendation that they be adopted by the Association:

Resolved, That teachers of medicine and pharmacy, editors of medical and pharmaceutical journals and authors of text-books are respectfully requested to give precedence to the metric method in the writing of all medical formulas and that, for the administration of doses of less than a teaspoonful, the quantity be stated in drops delivered from a standard medicine dropper or pipette of three millimeters external diameter, which will deliver twenty drops of water at 15 C., which will measure one cubic centimeter when dropped at the rate of one per second, and that the teaspoonful be considered as equivalent to five cubic centimeters and that the tablespoonful be considered as equivalent to fifteen centimeters; and

Resolved, That the orthography, abbreviation, etc., of the International Bureau, or as revised by the National Bureau of Standards

at Washington, shall also be recommended for adoption in medical and pharmaceutical publications; and

Resolved, That a copy of these resolutions be transmitted to the Committee of Revision of the United States Pharmacopoeia for 1900, with the request that they be incorporated, as far as possible, in the United States Pharmacopoeia.

Nerve Nostrums and Drug Addictions.

The following is the report of the Committee on Nerve Nostrums and Drug Addictions and the action taken thereon, as reported in THE JOURNAL, May 23, 1903, page 1455:

The use of proprietary medicines, and especially the so-called nerve tonics and nerve sedatives, has rapidly increased in the past few years, and there seems no likelihood of their decrease unless some systematic plan is made to check this rapidly growing evil. The medical profession owes it to itself and to humanity to take a decided stand on the subject. While we are unable to get rid of the charlatan and faker, while we have notes in our own eyes, it devolves on us as teachers of hygiene to so educate the public that the nostrum business will be reduced to a minimum.

While the profession as a whole is opposed to nostrums, no organized plan to expose their fraudulent claims has yet been made. A few good papers have appeared sporadically in certain medical journals. Evidently the profession has thought that fads and fakers would die out if left alone with "their rope," but such is not the case.

The advertising media of proprietary medicines are: The physician's use of them, the religious press, the lay press, and their own printing presses. Nine of the most widely-read influential religious papers published by the Methodists began the new year by dropping the patent medicine ads. Even the lay press has begun to feel the hand of progress and civilization. Several of the leading newspapers in the east, in Philadelphia, New York and Boston, do not print objectionable medical advertisements.

Dr. Spratling has well said that the quack's secrecy is his only stock in trade; dispel the mystery surrounding him and he will disappear like mist before the rising sun. The term "patent" applied to these medicines is a fraud, pure and simple, because if they were patented their composition would be known and the "valuable discovery" would be free to the public when the patent ran out, as in the case of Castoria. Instead, they are kept secret, and are given protection and a perpetual monopoly on their names through the copyright and trade-mark laws. Some modification of these laws is a necessity.

LEGISLATION BY CONGRESS.

The opportunity is now with us to go before Congress and ask that body to regulate the interstate commerce in proprietary medicines. Such a law would be easier to pass than to break through the state legislature, which is controlled by country newspapers, whose very existence generally depends on the money paid for the advertisements, many of which are unfit to be read in any home in any civilized land. Such a measure should require that the formulas of all proprietary medicines be registered with some department of the Federal government, for instance, the recently established drug laboratory at Washington, and that the sale of all medicines containing any dangerous substances or habit-forming drugs be prohibited unless an exact and correct formula of the ingredients and their quantities be attached to the bottle.

DRUG ADDICTIONS.

With reference to the uses of hypnotics and analgesics and resultant drug addictions, we would recommend that the patient should never be advised of the character of the medicinal agent employed, that every precaution should be taken against such information as may lead to self-medication and its sequelae of drug habits.

The addiction to drugs that enslave is too often caused by carelessness on the part of the physician giving verbal directions to the patient to take "so and so," or by informing him that he will give him something which will quickly afford relief from some acute pain, etc. The custom of prescribing some of these preparations in the original package, thus familiarizing patrons with the name and properties of

these medicines, is also a dangerous practice, leading to self-medication, and should not be countenanced by reputable physicians. Many of these preparations "prepared solely for physicians' use," are now sold as regular "patent medicines," even at cut rates in department stores. And let it be said to the shame of the medical profession that nearly a score of such medicines are advertised in medical journals, thus giving them a quasi endorsement.

LACK OF SCIENTIFIC NOMENCLATURE.

More general information concerning the Pharmacopeia and its unofficial supplement, the National Formulary, would lessen the necessity of resorting to unofficial preparations. The multiplication of these articles, with their often arbitrarily selected copyright titles, confuses the physician and is the bane of the pharmacist's existence. Sometimes the names of entirely different preparations are so similar as to invite error and serious consequences as a result. Even the true synthetic chemicals are open to this serious objection, while the many mixtures masquerading as definite chemical compounds under suggestive therapeutic terms simply make confusion worse confounded. Owing to their being protected often by patent on the product itself, as well as by patent on the process, in addition to a copyright on the trade name, their status is so questionable as to prevent their admission to the U. S. Pharmacopeia, and the medical and pharmaceutical professions are without adequate knowledge as to their identity, purity and strength. Valuable additions to the materia medica are thus submerged by the irresistible flood of nostrums until the physician is at sea and the pharmacist in despair.

Many schemes for segregation have been proposed, the plan pursued in France having received the most favor, as noticed at various times in the journals. There being here no official body corresponding to the French Academy of Medicine, it has been suggested that such committee might be formed from the American Medical Association and the American Pharmaceutical Association.

THE NATIONAL BUREAU OF MEDICINES AND FOODS.

There is about to be organized the National Bureau of Medicines and Foods, the object of which is to undertake work of this character. The bureau proposes to examine medicinal articles and foods, and certify to such as conform to the standard professed by the manufacturer and to be required by the bureau, for the information of the medical and pharmaceutical professions.

In conclusion your committee recommends:

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2. That articles on the dangers arising from the use of quack nostrums should be written for such newspapers for publication.
3. That the Committee on National Legislation be asked to consider the feasibility of the introduction in the next House of Representatives an interstate measure prohibiting or limiting the sale of poisonous and dangerous patent medicines.
4. That no medicinal preparation for internal use, as distinguished from antiseptics, disinfectants, cosmetics and dietetics, advertised as a remedy or cure to the laity, is entitled to the patronage of physicians, nor should such be admitted to the pages of the medical journals, nor to the exhibitions of the American Medical Association.
5. That manufacturers be requested to print the scientific or chemical names under the trade names of all pharmaceutical or chemical preparations.
6. That the general plan and object of the National Bureau of Medicines and Foods are entitled to a further careful investigation by a special committee of the American Medical Association.

WM. J. ROBINSON, New York.

A. W. BAER, Chicago.

H. C. WOOD, JR., Philadelphia.

On motion these recommendations were adopted.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1. Secretary, Geo. G. Gere, M.D., 825 Market St., San Francisco.

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Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

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The Confederation of Reciprocating Licensing Boards.—Dr. B. D. Harison, secretary of the American Confederation of Reciprocating Examining and Licensing Medical Boards, calls our attention to some errors and omissions in the report of the meeting of this confederation at St. Louis, October 27, which appeared in *THE JOURNAL*, November 7, page 1156. He says that four states were represented which we did not mention, namely: Ohio, Pennsylvania, Nebraska and Oklahoma. In our report we mentioned the obstacles to reciprocity. Dr. Harison states that obstacles in the way of practical reciprocity were not discussed at the meeting except by inference; that it was declared by those states reciprocating under qualifications 1 and 2 that experience in exchanging certificates under these qualifications demonstrated the fact that there were no such obstacles as stated in *THE JOURNAL* report. "After several months' experience in exchanging certificates," Dr. Harison says, "under both qualifications 1 and 2 the obstacles reported in *THE JOURNAL*'s report have been demonstrated beyond any question or doubt to have no material existence." Dr. Harison says concerning the discussion on qualification 2 that the change made had no reference to the diploma, but added the requirements of a year's reputable practice in the state subsequent to the receiving of a license before endorsement could be had for a reciprocal license in another state. Qualification 2 as amended reads as follows:

That a certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state, provided the holder of such state certificate had been engaged in reputable practice in such state at least one year, and also provided that the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test in such state.

Dr. Harison further says that the St. Louis meeting was without question the most successful and fruitful reciprocating conference ever held in the United States and that the confederation gained an actual increase of membership of over 66 per cent. and that a greater increase is more than probable within a brief period.

California Report.—Dr. George G. Gere, secretary of the Board of Medical Examiners of the State of California, reports in detail the written examinations held at San Francisco and Los Angeles, July 7 to 9 and August 4 to 6, 1903. The percentage required was 75, there were 9 subjects, 90 questions, and 158 candidates; of the latter, 108 passed and 50 failed, including 14 who were conditioned because of deficiency in certain branches, and who will be required only to take re-

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Cooper Medical College.....	27	5	91.3	72.2	81.9	77.8
Univ. of Southern California..	19	0	89.1	75.1	81.7	74.4
University of California.....	13	2	87.8	72.4	81.6	76.1
Coll. of P. and S., California.	13	7	89.2	70.3	81.5	77.1
California Med. College (E)...	0	2	80.3	74.0	...	...
Johns Hopkins University....	2	0	94.2	91.0	92.6	...
Rush Medical College.....	3	1	84.5	71.5	82.2	69.6
Northwestern University....	2	1	87.3	60.8	85.8	60.8
College of P. and S., Chicago.	2	2	75.3	72.7	75.1	73.0
Hahnemann M. C., Chicago...	2	2	83.5	73.5	82.1	75.1
University of Michigan.....	1	1	80.5	61.1	80.5	67.3
University of Louisville.....	0	1	77.4	53.3	...	67.8
Bowdoin Med. College, Maine.	1	2	77.1	71.6	75.0	74.3
Saginaw Valley M. C., Mich..	1	1	77.2	66.2	77.2	66.2
Bellevue Med. Coll., New York	1	1	80.5	44.7	80.5	44.7
University of Pennsylvania...	1	1	85.5	74.1	80.4	74.1
Columbia Univ., New York...	2	0	88.7	83.3	86.0	...

* Graduate 1889. † Graduate 1884. ‡ See dates of graduation below.

examination in those particular branches. By including in the summary below those who were conditioned with those who failed, the average failing grades are raised, for example, some were conditioned in spite of average grades of 85 and 80. The year of graduation is recent (1900 to 1903), unless otherwise specified; we call attention to the many graduates of the years 1864 to 1890.

GRADES IN DETAIL.

Cooper Medical College—Passed: 91.3, 86.6 (2), 85.7, 85.1 (2), 84.2, 84.1, 84, 83.4, 83.2, 82.8, 82.5, 81.8, 81.7 (2), 80.8, 80.7, 80.3, 80.1, 79.7, 79, 77.7, 77.2, 76.4, 75.1, 75. Failed: 80.4, 79.5, 79.3, 77.6, 72.2. (Those marked 75 or above were conditioned; those below failed entirely.)

University of Southern California—Passed: 89.1, 88.6, 84.6, 84.5, 84.3, 83.4, 83, 82.6, 81.7, 80.4, 79.8 (2), 79.7, 79.6 (2), 79.5, 79.2, 78.1, 75.1.

College of Physicians and Surgeons, California—Passed: 89.2, 87.4, 84.7, 84.4, 84.2, 83.3, 82.7, 81.7, 78.4 (2), 75.5, 75.4, 75. Failed: 85.1, 79.4, 76.6, 74.1 (2), 73.2, 70.3.

University of California—Passed: 87.8, 86.4, 84.7, 84.4, 83.5, 83.1, 81.3, 80, 79, 78.2, 78.1, 77.7, 77.6. Failed: 76.5, 72.4.

Rush Medical College—Passed: 84.5, 83.1 (graduate 1893), 79.1 (1869). Failed: 73.8, 71.5 (1881), 63.5.

Northwestern University—Passed: 87.3, 84.3. Failed: 60.8 (1869).

College of Physicians and Surgeons, Chicago—Passed: 75.3, 75 (1890). Failed: 73.4, 72.7.

Hahnemann Medical College, Chicago—Passed: 83.5, 80.7. Failed: 76.7, 73.5 (1891).

University of Michigan—Passed: 80.5 (1868). Failed: 71.7 (1890), 69.3 (1864), 61.1 (1882).

University of Louisville—Failed: 77.4 (1875), 72.8 (1892), 53.8 (1887).

Bowdoin Medical College—Passed: 75 (1893). Failed: 77.1 (1892), 71.6.

University of Pennsylvania—Passed: 85.5, 75.3 (1891). Failed: 74.1 (1884).

Colleges having but one representative were as follows:

PASSED.

College.	Year Grad.	Grade.
University of Berlin, Germany.....	1901	76.3
Pulte Medical College, Ohio.....	1903	75.1
Yale University.....	1898	81.5
University of Minnesota.....	1902	80.7
Western Reserve University, Ohio.....	1900	85.6
Baltimore Medical School.....	1902	82.8
Harvard University.....	1901	87.1
Medical College of South Carolina.....	1884	80.3
University of Colorado.....	1897	79.8
Washington University, St. Louis.....	1900	79.6
Jefferson Medical College, Philadelphia.....	1875	75.2
Kentucky School of Medicine.....	1885	79.7
University of Buffalo.....	1899	80.7
Barnes Medical College, St. Louis.....	1897	80.7
University of Niagara.....	1898	77.8
Creighton Medical College, Omaha.....	1900	78.5
University of Georgetown, D. C.....	1902	77.2

FAILED.

Vanderbilt University, Tennessee.....	1903	76.3
New York University Medical College.....	1896	66.1
New York Homeopathic Medical College.....	1903	76.4
Apothecaries' Hall, Ireland.....	1899	75.3
University of Basle, Switzerland.....	1902	73.1
Tufts Medical College, Boston.....	1901	71.2
Laval University, Montreal.....	1901	69.6
University of Vienna, Austria.....	1891	74.0
Detroit Medical College.....	1897	61.6
Chicago Homeopathic Medical College.....	1879	65.2
Hahnemann Medical College, California.....	1901	71.3
University of the City of New York.....	1886	71.7
University of Iowa.....	1883	70.5
McGill University.....	1875	73.1

The questions asked were as follows:

MATERIA MEDICA (AUGUST).

1. What is meant by rational therapeutics? Empirical therapeutics? 2. Name three drugs that increase the amount of urine by raising the general blood pressure. Three that increase the quantity by acting locally on the kidney. 3. Name five drugs that are liable to cause an eruption on the skin when given in large doses. 4. Give five drugs that are supposed to have an antiseptic action on the intestinal tract. 5. Name a drug that has a physiologic action practically antagonistic to each of the following: Aconite, chloralhydrate, morphia. 6. Name a drug that has a physiologic action practically synergetic with the above. 7. What is the composition of Blood's pills? 8. Write a prescription for chronic constipation such as is commonly met with in patients of sedentary habits. 9. Name and give dose of two drugs that, administered three times a day for several days, might have a cumulative action. 10. What is the physiologic action of ergot on involuntary muscle? Nitroglycerin on peripheral blood vessels? Strychnia on the nervous system?

MATERIA MEDICA—HOMEOPATHIC (AUGUST).

1. Give the characteristic skin symptoms of graphites. 2. Give the neuralgic symptoms of colocynth. 3. Differentiate china and ipecac in hemorrhages. 4. Differentiate in general between belladonna, hyoscy, and stramon. 5. Give indications for two remedies in typhoid. 6. Describe the general effects of opium. 7. Give two remedies acting on the liver, with special indications. 8. Give brief outline of the action of quinia. 9. Give two remedies in the treatment of erysipelas, with indications. 10. What symptoms indicate sanguaria in headaches?

MATERIA MEDICA AND THERAPEUTICS (JULY).

1. What do you understand by the cumulative action of a drug? 2. What are the modes of administration of medicine, and how

does the dosage vary as compared to that of the mouth? 3. Give three drugs and their dosage that, in their excretion by the kidneys, will (a) render the urine antiseptic; (b) render the urine alkaline in reaction; (c) render the urine acid in reaction. 4. Name two drugs that will increase the secretion of bile by the liver cells (direct cholagogues), two that increase the flow of bile from the gall bladder into the intestinal tract (indirect cholagogues). 5. Compare the physiologic action on the heart of digitalis with strophanthus. 6. What would you consider a safe initial dose of hydrochlorate of cocaine administered hypodermatically to an adult? 7. Compare the physiologic action of hyoscyamus with belladonna on the nervous system. 8. Give the medium adult dose of the following: Sulphate of morphia, tincture of belladonna, sulphate of strychnia, nitrate of silver, corrosive sublimate. 9. What is the composition of the following: Dover's powders, Fowler's solution, Basham's mixture? 10. What do you understand by the incompatibility of drugs? Name the general incompatibilities of iron.

MATERIA MEDICA AND THERAPEUTICS—ECLECTIC (JULY).

1. Give therapeutic application of digitalis—Jaborandi and hyoscyamus. 2. Give indications and contraindications for morphia and chloral hydrate. 3. Give indications for strychnia. How would you give it and in what dose? 4. Give indications for aconite, veratrum, strophanthus, macrotis, and bryonia, with physiologic effect of each. 5. What is materia medica? Therapeutics? 6. How does gelsemium quiet a restless, fretful patient? 7. Differentiate a muriatic and nitric acid tongue. 8. What do you understand by the term alteratives; expectorants? 9. Specific diagnosis; specific medication. Define each, and on what are they based? 10. What form of medicine do you prefer, and why?

BACTERIOLOGY (AUGUST).

1. Name two anaërobic bacteria, and give a method of cultivating this class of bacteria. 2. Give the characteristics of anthrax bacilli. 3. Name three acid-resisting bacteria. 4. Name two ways by which bacteria propagate. 5. What is necessary to prove the pathogenic rôle of a pathogenic microorganism? 6. Give the differential bacteriologic diagnosis of typhoid and colon bacilli. 7. Describe gonococci, and give method of staining and method of culture. 8. What is Gram's solution, and how is it used? 9. What precautions are necessary in handling specimens that are to be examined for bacterial infections? 10. What bacteria are found in gangrene?

BACTERIOLOGY (JULY).

1. What do you understand by the terms toxins, ptomaines, leucomains? 2. Bacteria, being devoid of chlorophyll, must obtain their nitrogen and carbon from what source in general? 3. In addition to carbon and nitrogen, what substance is required for the life and development of bacterial growth? 4. Define anaërobic, aerobic and facultative bacteria. 5. Name the three classes of bacteria as to form; illustrate each. 6. How are the micrococci subdivided, as seen in growing culture? Illustrate. 7. What is the difference between sterilization and disinfection? 8. What is an antiseptic, a germicide? Give examples of each. 9. What organism is generally accepted as the infective factor in puerperal septicemia? 10. Discuss the conditions necessary to infection; also give your ideas as to prevention of same, with method of disinfection.

PHYSIOLOGY (JULY).

1. What is meant by the proximate principles of the body, and how are they classified? 2. What is the composition of the gastric juice? In normal digestion what is the reaction shortly after taking food? 3. What is the action of pancreatic juice on albumin? Starch? Fats? Cane sugar? 4. What is considered a normal ratio in numbers between white and red blood corpuscles? How modified by prolonged exertion? By a hearty meal? 5. What is supposed to cause the first sound of the heart? The second sound? What constitutes a cardiac cycle? 6. What is average amount of air taken into the chest at each inspiration? 7. What is the average amount of water excreted in the urine in 24 hours? Urea? Uric acid? 8. What is glycogen? Give its origin and use. 9. What changes occur in the feces from obstruction of the common bile duct of the liver? 10. What is understood by reflex action? Illustrate by a drawing.

PHYSIOLOGY (AUGUST).

1. Name the digestive fluids found in the alimentary canal, and tell where each is produced. 2. Describe the circulation of the blood and give the causes of its flow in the different vessels. 3. Name the different organs concerned in the excretion of waste material of the body and give the principal ingredients eliminated by each. 4. Describe the lymphatic system and give its functions. 5. Name the principal divisions of the brain. 6. Describe the process of respiration. 7. Describe reflex action. 8. Describe stomach digestion. 9. Describe the portal circulation. 10. Name the cranial nerves and the function of each.

SURGERY (AUGUST).

1. Define fracture; compound fracture; comminuted fracture; impacted fracture; intracapsular fracture. 2. How would you recognize and dress a supracondylar fracture of the humerus? 3. How would you treat a punctured wound; a lacerated wound? 4. Name different measures by which you would control hemorrhage in wounds. 5. In venous hemorrhage requiring surgical interference: First. How would you diagnose same? Second. What would be your treatment, and on what would it depend? Third. What are the special dangers in wounds of the internal jugular, subclavian, axillary, femoral and popliteal veins? 6. What is an irreducible hernia? A strangulated hernia, and how would you treat the latter? 7. Give the procedure, or steps, of an operation for inguinal hernia in the male. 8. Define phlegmon and outline treatment. 9. Give an example of a connective tissue tumor; an epithelial tumor; a dermoid tumor; a cystic tumor. 10. Differentiate chancre and chancreoid under the following heads: Origin, incubation, situation, commencement, number, shape, surface, secretion, induration, sensibility, histology, bubo.

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1. Arrange a grouping (a) showing principal benign tumors, (b) principal malignant tumors. 2. Differentiate a bilious colic and

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WM. J. ROBINSON, New York.
A. W. BAER, Chicago.
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On motion these recommendations were adopted.

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* Graduate 1889. † Graduate 1884. ‡ See dates of graduation below.

The Public Service.

Navy Changes.

List of changes in the Medical Corps of the Navy for the week ending Nov. 14, 1903:

Surgeon D. N. Carpenter, detached from the *Chicago* and ordered home to wait orders.
Asst.-Surgeon R. B. Chapman, appointed assistant surgeon with rank of Lieutenant, junior grade, from Oct. 28, 1903.
Surgeon O. Diehl, detached from the *Oregon* and ordered to the *New Orleans*.
P. A. Surgeon M. S. Guest, detached from the *New Orleans* and ordered to the *Oregon*.
P. A. Surgeon H. D. Wilson, detached from the Naval Station, Olongapo, P. I., and ordered to the *Vicksburg*.
Asst.-Surgeon G. M. Mayers, detached from the *Vicksburg* and ordered to the *El Cano*.
Asst.-Surgeon J. M. Brister, detached from the *El Cano* and ordered to the *Isla de Cuba*.
Surgeon C. Biddle, detached from the *Puritan* and ordered to the *Lancaster*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 12, 1903:

Asst.-Surgeon-General W. J. Pettus, detailed as inspector of un-serviceable property in the Hygienic Laboratory.
P. A. Surgeon J. B. Green, granted leave of absence for twenty days from November 15.
P. A. Surgeon J. F. Anderson, to proceed to Detroit for special temporary duty.
Asst.-Surgeon J. W. Trask, granted leave of absence for four days from Oct. 17, 1903, under paragraph 191 of the Regulations.
Asst.-Surgeon T. W. Salmon, to proceed to Philadelphia and report to medical officer in command for duty.
A. A. Surgeon W. C. Mason, granted leave of absence for five days from November 19.
A. A. Surgeon Henry Owen, granted leave of absence for thirty days from November 8.
Pharmacist John Achenbach, granted leave of absence for seventeen days from November 20.

BOARD CONVENED.

Board convened at Chelsea, Mass., November 12, for physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

APPOINTMENTS.

Thomas William Salmon of New York, commissioned (recess) as assistant surgeon, Nov. 7, 1903.
George Neves of Oklahoma, appointed pharmacist of the third class, Nov. 11, 1903.

RESIGNATION.

Pharmacist Frank Siedenburgh resigned, to take effect Oct. 4, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Nov. 13, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 1-7, 2 cases.
Illinois: Belleville, Nov. 1-7, 11 cases, 1 death; Chicago, Nov. 1-7, 3 cases.
Indiana: Indianapolis, Oct. 25-31, 2 cases.
Louisiana: New Orleans, Nov. 1-7, 3 cases, 2 imported.
Maine: Grand Isle, Oct. 1-31, 25 cases.
Massachusetts: Haverhill, Nov. 1-7, 1 case.
Michigan: Detroit, Nov. 1-7, 2 cases.
Missouri: St. Louis, Oct. 25-31, 1 case.
New Hampshire: Manchester, Nov. 1-7, 5 cases.
New Jersey: Camden, Nov. 1-7, 1 case.
New York: New York, Nov. 1-7, 2 cases.
Ohio: Cincinnati, Oct. 31-Nov. 6, 1 case; Nov. 1-7, Cleveland, 1 case; Dayton, 2 cases; Warren, 1 case; Youngstown, 1 case.
Pennsylvania: Nov. 1-7, Erie, 1 case; Johnstown, 1 death; Philadelphia, 42 cases, 4 deaths; Pittsburgh, 30 cases, 14 deaths.
Rhode Island: Providence, Nov. 1-7, 1 case.
Tennessee: Memphis, Nov. 1-7, 6 cases.
Utah: Salt Lake City, Oct. 25-31, 1 case.
Wisconsin: Milwaukee, Nov. 1-7, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 11-24, 21 cases.
Belgium: Oct. 18-24, Antwerp, 2 cases; Brussels, 1 death.
Colombia: Barranquilla, Oct. 19-25, 1 death.
France: Marseilles, Sept. 1-30, 25 deaths; Paris, Oct. 18-24, 8 cases.
Great Britain: Bradford, Oct. 10-24, 4 cases; Glasgow, Oct. 24-30, 18 cases; Oct. 18-24, Leeds, 1 case; Liverpool, 4 cases; London, 26 cases; Newcastle-on-Tyne, 10 cases; Sheffield, 1 case.
Italy: Catania, Oct. 16-22, 1 death; Palermo, Oct. 18-24, 1 case.
Java: Batavia, Sept. 27-Oct. 3, 5 cases.
Malta: Oct. 11-17, 5 cases.
Mexico: City of Mexico, Oct. 19-25, 3 cases, 2 deaths; Tampico, Oct. 25-31, 1 death.
Russia: Oct. 11-17, Moscow, 1 new case, 5 deaths; Odessa, 1 case; St. Petersburg, 33 cases, 1 death; Warsaw, Oct. 4-10, 4 deaths.
Turkey: Constantinople, Oct. 12-25, 4 deaths; Smyrna, Oct. 12-18, 46 deaths.
Venezuela: Tucuro, Oct. 16, present.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Sept. 13-26, 2 cases, 1 death.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 3-10, 10 cases; Laredo, Nov. 4-10, 120 cases, 18 deaths; Minera, Oct. 30-Nov. 6, 10 cases; San Antonio, Nov. 2-10, 3 cases, 1 death; Dewitt County, Nov. 4, 1 case.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Oct. 23-29, 2 cases, 2 deaths.
Mexico: Oct. 4-10, Citas, 6 cases, 4 deaths; Ciudad Victoria, 19 cases, 20 deaths; Linares, 376 cases, 34 deaths; Merida, 3 cases, 1 death; Progreso, 1 case; Tampico, 7 cases, 1 death; Tehuantepec, 1 death; Vera Cruz, Oct. 25-31, 43 cases, 13 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 13-26, Manila, 148 cases, 134 deaths; Provinces, 3,101 cases, 1,439 deaths.

CHOLERA—FOREIGN.

China: Hongkong, Sept. 20-26, 1 case, 1 death.
Japan: Yokohama, Oct. 4-10, 1 case, 1 death.
Turkey: Syria, Alexandretta, Oct. 11-17, 4 cases, 2 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 20-29, 4 cases, 4 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Sept. 13-26, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Sept. 20-26, 2 cases, 1 death.
Formosa: Sept. 24-30, 1 new case, 2 deaths.
Japan: Yokohama, Oct. 4-10, 1 case, 1 death.
Mauritius: Oct. 2-8, 54 deaths.

Medical Organization.

Organization in Colorado.

J. M. BLAINE, M.D.

SECRETARY COLORADO STATE MEDICAL SOCIETY.

It should be remembered that the "backbone" of the continent passes through our state and that these spinous and transverse processes are not the best things in the world on which to found colonies and sustain vast populations; hence, one will find whole counties in this state where there are no physicians, and there are more than twenty counties in the state with from one to six physicians each. Under these circumstances it was thought best last year, when we adopted the new constitution, to modify it in one particular, viz., that persons in good standing in June, 1902, could remain members of the state society by paying the usual dues.

There were in the state sixty-six members who were protected by this proviso, as they were not members of county societies. There was no provision made, however, for new members to join the society except through membership in a local society. After trying this plan for a year our house of delegates, at the recent meeting in October, amended Chapter I, Article 11, of the by-laws so that there is now no membership in the state society. We made provision for the aforesaid "sixty-six" so that they could join the nearest county medical society without paying an initiation fee, provided the secretary of the state society would certify to their standing. This puts Colorado in line with the other states on the American Medical Association plan.

This brings us down to the question of providing local societies at convenient points throughout the state so that our men may not lose their standing in the American Medical Association.

When the new constitution was adopted there were ten county societies in the state. These were furnished with the model constitution sent out by the American Medical Association committee, and each one adopted it. In addition to these, we have, during the past year, organized seven new societies. Owing to the vastness of our state and the distances between centers of population, our councilors have delegated the work of organization to the secretary. This is a pleasant duty, and as a rule the work is very easy, for the physicians appreciate the fact that under the reorganization scheme a county society means something, as it carries with it representation in the state society, and is the only portal to the American Medical Association.

Last summer I received a letter from a physician in the southern part of the state asking how to join the state society. I answered that he could either join the nearest county society, which was 140 miles away, across a mountain range, requiring him to travel on three different lines of railroad, or organize a society of their own. I wrote to one of our prominent physicians living in that part of the state, and he took the matter up, and by combining five counties he organized a splendid society with 15 charter members. I received

the program of their last meeting and it would compare very favorably with a program of any society.

Last July I visited five counties and organized four societies, in one instance combining two counties. With three more societies (one of which is now under way) the "Western Slope" will be thoroughly organized, and I expect by our next meeting to be able to report societies organized in every available center.

In addition to the amendment mentioned, the house of delegates relieved the secretary from being chairman of the publishing committee and appointed a committee of three, with instructions to establish an official journal in which should be published the papers presented at the annual meeting and other matters of interest to the society. The section relating to membership in county societies was amended to read as follows:

Every reputable and legally qualified physician residing in this county who does not practice or claim to practice and agrees not to practice sectarian medicine, and who is not affiliated with a sectarian school or society, shall be eligible for membership.

This, we think, is a little stronger and better defined than the model furnished by the committee.

Up to June, 1902, when the new constitution was adopted, we had a total membership of 340. At our recent meeting in October the chartered county societies showed a membership of 554, and I expect to be able to report at our next meeting (October, 1904) that our membership has doubled.

Under the old system our dues were \$5 per year. Under the new, and for the present, we assess each county society \$3 per capita, so our revenue will be more than formerly.

We like the new plan. It has doubled our membership and unified the profession in the state, so that we will be in position to demand more courteous treatment at the hands of "Jim Crow" governors who have not enough gray matter in their brains to see the benefit of a good medical bill, or enough starch in their spinal cords to sign it; but, best of all, it constitutes the county society judge, jury and executioner and forces a man to be ethical at home before he can be a member of the state or national society.

California.

VENTURA COUNTY MEDICAL SOCIETY.—The medical men of the county met at Ventura, October 29, Dr. H. Bert Ellis, Los Angeles, president of the state society being present, and organized a county society with the following officers: Dr. John H. Love, Ventura, president; Dr. George A. Broughton, Oxnard, vice-president, and Dr. A. A. Maulhardt, Oxnard, secretary and treasurer.

Illinois.

MASON COUNTY MEDICAL SOCIETY.—This society was organized in Havana the first week in November with the following officers: Dr. Philip L. Diefendacher, Havana, president; Dr. Edward W. Paul, Forest City, vice-president; Dr. Harry H. Hanly, Havana, secretary, and Dr. C. Fred Grimmer, Topeka, treasurer.

Iowa.

SHELBY COUNTY MEDICAL SOCIETY.—On October 30, the physicians of the county met at Shelby and organized a county society with twelve charter members, and the following officers: Dr. N. Jasper Jones, Shelby, president; Dr. Eugene J. Smith, Harlan, vice-president, and Dr. Hennesy, Panama, secretary.

Louisiana.

ST. JAMES' PARISH MEDICAL SOCIETY.—At the meeting for organization, October 31, Dr. Peter C. Tircuit, St. Patricks, was elected president; Dr. Louis A. Gaudin, Convent, vice-president, and Dr. J. F. Buquoi, Colomb, secretary and treasurer.

CALCASIEU PARISH MEDICAL SOCIETY.—This society was formally organized on the standard plan, November 2, at Lake Charles, with the following officers: Dr. Allen J. Perkins, Lake Charles, president; Dr. Perrault, Jennings, vice-president, and Dr. Pearl Munday, secretary and treasurer.

ASSUMPTION PARISH MEDICAL SOCIETY.—The physicians of the parish met at Napoleonville, October 22, were addressed by Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, and organized a parish medical society on the standard plan, with the following officers: President, Dr. Thomas B. Pugh, Napoleonville; vice-president, Dr. Adolphe A. Aucoin, Plattenville, and secretary and treasurer, Dr. Adrian A. Landry, Painscourtville.

North Carolina.

WAYNE COUNTY MEDICAL SOCIETY.—This society was re-organized at Goldsboro, October 26, with the aid of Dr. Albert

Anderson, Wilson, counselor for the Fourth District. The following officers were elected: Dr. Marcus E. Robinson, Goldsboro, president; Dr. William Spicer, Goldsboro, vice-president; Dr. William H. H. Cobb, Jr., Goldsboro, secretary; Dr. Theodo L. Ginn, Goldsboro, treasurer; Drs. William H. H. Cobb, Goldsboro, J. B. Kennedy, and William T. Turlington, Fremont, censors, and Dr. John F. Miller, delegate to the Medical Society of the State of North Carolina.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Birmingham Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

COLORADO STATE MEDICAL SOCIETY.

Twenty-Third Annual Convention, held in Denver, Oct. 6-8, 1903.

(Continued from page 982.)

Osteo-arthritis and Rheumatoid Arthritis.

DR. B. C. LEAVITT, Denver, thinks that the two affection are often confounded. The severe cases of osteo-arthritis, he asserts, would not have reached this stage of they had been properly treated. As soon as the disease is recognized they should receive a tonic treatment, meat and fresh air being especially indicated. The joints should be wrapped in moistened gauze, covered with rubber tissue. They should be treated as tubercular patients. Going to Hot Springs has no medicinal value.

Incipient and Acute Insane—Recoverability and the Factor Therein.

DR. J. E. COURTNEY, Denver, asserts that the most important factor for recovery is the earliest possible recognition and treatment. The statistics of institutions are all uniform on these points. The percentage of recovery in which the attack has existed three months or less, is upward of 50 per cent. of all recoveries, and after a duration of six months previous to admission the recovery rate falls.

Soup Diet in Typhoid Fever.

DR. H. B. WHITNEY, Denver, fed 17 of his patients suffering from typhoid with soup. With the exception of one case that died from meningitis they were singularly devoid of either severe toxic gastro-intestinal symptoms; no delirium, sleeplessness, dry tongue, tympany or diarrhea. The diet was well borne. The soup is prepared according to the following formula: Five pounds of meat is put in 10 quarts of water, brought to a boil and skimmed. One pound of pearl barley is added, the whole is cooked for six hours, strained and seasoned. The patient received 40 ounces of the soup between 7 a. m. and 7 p. m.

The Treatment of Neurasthenia.

DR. HOWELL T. PERSHING, Denver, divides the remedies into (a) those whose chief effect is to prevent the loss of nervous energy—prevention of emotional disturbances by reassurance and favorable suggestion, by forming a habit of relaxation and repose, limitation of work, prevention of toxic condition, removal of peripheral irritation, reduction of cortical irritability by medicine, and sleep; (b) remedies whose chief effect is to increase the income of nervous energy—food and medicines, and (c) remedies used empirically whose action is complex or obscure—electricity, hydrotherapy, massage, exercise.

The problem of selection and combination of remedies the physician must approach in the spirit of an artist rather than in that of a pure scientist. His greatest skill will be demanded by those who are not financially able to command the luxuries of the rest cure and who must return to their work.

Case of Hysterical Hyperpyrexia and Hemoptysis.

DR. BERNARD OETTINGER, Denver, reported the case of a man 24 years old sent to Denver with diagnosis of tuberculosis.

On admission to the Jewish Hospital for Consumptives slight dullness at base of right lung could be detected, but no rales. He coughed up bloody mucus at times. Temperature normal. He was put to bed, and on the same day the thermometer registered 108 F. Two days later the temperature record was 114 F. by mouth and rectum. Complains he can not see well. Complete ptosis of right lid. Papillary reaction sluggish. Complete anesthesia over top of head, chest, back and shoulders. All possible points of deception or simulation were considered and excluded.

A Case of Congenital Dilatation of Colon.

DR. C. K. FLEMING, Denver, reported the case of a man 25 years old who suffered from chronic constipation from infancy. He was 8 days old when he had his first bowel movement, 80 days when he had the second movement. From the second year his bowels moved about four times a year. His movements were very large. Relief from distention could only be obtained by the use of rectal tube and prolonged irrigation.

During the intervals he felt perfectly well. The patient consented to an exploratory laparotomy. On opening the abdomen a large collapsed colon was readily found and delivered from the abdominal cavity. In color it resembled an ovarian cyst; it extended about 3 inches below splenic flexure to the anus, involving the descending colon, sigmoid and rectum. The operation consisted in plaiting the sac longitudinally from one extremity to the other. Seven or eight folds were taken. The plicated sac was suspended by a catgut suture to the abdominal wall. Convalescence was uninterrupted. His bowels move by cathartics daily, which was never possible before the operation.

Congenital Dislocation of Hip.

DR. GEORGE B. PACKARD, Denver, reported the histories of six cases, three of which were operated on by Professor Lorenz and three by the author. Three of the cases gave good results and three produced anterior transpositions.

Injuries of the Elbow Joint.

DR. C. B. LYMAN employs plaster-of-paris splints made of 8 or 10 thicknesses of gauze, saturated thoroughly in liquid plaster of paris, one to extend from axilla to fingers, the other from neck to fingers. These are applied next to the skin and secured by roller bandage. The arm can then be flexed to any angle desired. The arm is then held in that position until the splints become hard. He does not believe in passive motion.

Radium.

DR. G. H. STOVER exhibited some radium chlorid and described various experiments which he made. He applied it in three cases of cancer, but so far the results were not satisfactory. He thinks radium will never equal the x-ray for skiagraphic work, nor probably as a therapeutic agent.

The Passing of the Curette and Douche.

DR. H. G. WETHERILL, Denver, maintains that the curette and bichlorid douche should not be used in acute infection of the female genital organs. They are unnecessary and universally injurious. The patients that have recovered after such operation have done so in spite of the treatment. The treatment he uses as a substitute is the flushing of the uterus through a double drainage tube with alcohol of varying strength, according to the severity of the symptoms and the degree of smarting it produces at the vaginal outlet. This is a modification of the alcohol method of Corossa. This treatment is used in the Woman's Hospital for all intrauterine infections after abortion, complete or incomplete, or labor or term.

Report of a Case of Nephro-ureterectomy.

DR. CHAS. H. McLEAN, Denver, reported the case of a man aged 72 years, who 30 years ago had an attack of excruciating pain in the region of left kidney extending to penis and left testicle, lasting one day and terminating rather abruptly. Ten years ago had another such attack, and since had renal attacks about every six months.

A year ago during an attack had a hemorrhage from kidney,

and passed blood every two or three months since, accompanied by paroxysms of pain, nausea, chilliness and light fever. For last two or three months the hemorrhage is continuous. Patient consented to an operation. The kidney was found normal. A sound passed into the urethra met with an obstruction in the region of the pelvic brim. The ureter was found bent on itself and held firmly by adhesions. After separating the adhesions an attempt to pass the sound was not successful on account of thickening and timefaction. The kidney and ureter were excised. Patient made good recovery.

Therapeutics of Whooping Cough.

DR. J. TRACY MELVIN, Sagauche, enthusiastically recommended the use of antipyrin internally and also as a spray of a 4 per cent. solution. He used exclusively this treatment in 14 cases, all of whom recovered in from twenty-two to twenty-six days. He supplements the antipyrin treatment with loading the inhaled air with vapor of creosote, pure and crude carbolic acids.

Specifics and Specific Treatment in Treatment of Pulmonary Tuberculosis.

DR. S. SIMON, Denver, presented a historical review of measures and methods which have been considered specifics in their time and generation. He concludes with the statement that he does not believe "there is or ever will be any one remedy which will prove specific." He thinks the one great therapeutic measure which is almost specific is plenty of pure aseptic air.

Treatment of Tubercular Ulceration of Rectum and Perianal Region.

DR. P. MAXHEW, Colorado Springs, treats the above condition as follows: He paints the ulcer with a saturated solution of trichloroacetic acid. The next day this is repeated, and after waiting a few minutes for the acid to act the follicle of tissue which has been destroyed is removed with curette. No anesthetic is required. This may be repeated if necessary. The ulcer is dressed with iodine-carrying powders. The patient should be seen every other day. If healthy granulations have appeared there is no necessity of using the acid any more; Lugol's solution may be used instead. The tubercular ulcer is ultimately converted into a simple ulcer. The patients are apt to complain of increased soreness and painful defecation. This is really a sign of increased health.

Cholecystectomy vs. Cholecystostomy.

DR. MAURICE KAHN, Leadville, advocates the entire removal of the gall bladder whenever it is found diseased; he considers it a useless organ, "a settling basin for stone formation, and a suitable harbor for the multiplication of pathogenic bacteria." He operated on a woman 23 years of age who was treated for stomach trouble for several years. The gall bladder filled with pus and stones, was removed. The patient was out of bed 14 days after the operation.

A Case of Multiple Depressed Fracture of the Skull. Recovery.

DR. S. D. VAN METER, Denver, reported as follows: Male, aged 40. Foreman. While repairing a shafting box was struck on the left side of the head, about center of squamous portion of temporal bone by the end of an iron buck-stay, 11 feet in length, which fell from an upright position, the dead weight of which was estimated at 150 pounds. It struck with sufficient force to drive the injured man's head against the shafting of an upright bolt hard enough to cause two depressed fractures at the point of contact, and fracture at base of brain. The depressed fragments were removed. The first 5 days he lay in a stupor, but there were no signs of compression. At the end of the second week the nurse was able to get him to take some water and liquid food by the mouth. In another week he was able to take sufficient food by the mouth to sustain him. During the sixth week he began to use the vessel for urination and defecation, and commenced to walk.

DR. HOWELL T. PERSHING, Denver, describes the defects of speech and mind as follows: He hears words but does not understand them; his speech is a jargon made up of words correctly uttered, of others mutilated, and of still others en-

tirely unintelligible, although intended for words. He is word-deaf for his own speech and for that of others. Both reading and writing are defective.

The following papers were also read:

"Electricity," by Dr. J. W. Cline; "Physiologic Factors Engaged in Gallstone Disease," by Dr. Henry Sewall; "Intrabronchial Injections in the Treatment of Certain Chronic Diseases," by Dr. L. B. Lockard; "Criminal Abortion," by Dr. Minnie C. T. Love; "Testing of Vision of Pupils in the Public Schools," by Dr. Edward Jackson; "Testing of Hearing of Pupils in Public Schools," by Dr. W. C. Bane; "An Outline of Albuminuria," by E. C. Hill; "Volvulus of the Stomach," by E. D. Spivak; "Remarks on Nervous Complications in Typhoid Fever," by Dr. Herbert A. Block, Pueblo; "Case of Tetanus Cured by Injecting Antitetanic Serum into the Brain," by Dr. I. B. Perkins, Denver; "Shall We Abandon the Use of Antitoxin?" by Dr. E. F. Waxham, Denver; "Conservative Surgery," by Dr. George C. Steman, Denver; "Heart Disease in Colorado," by Dr. Geo. H. Cattermole, Boulder; "Brain Surgery," by Dr. F. H. McNaught, Denver; "Results of X-ray Treatment," by Dr. S. B. Childs, Denver; "Local Anesthesia," by F. Gregory Connell, Leadville; "Cancer of the Rectum. Its Approach by the Abdominal Route," by Dr. C. A. Powers, Denver; "Tendon Losses," by Dr. Geo. E. Mill, Denver; "Rectal Siphon," by Dr. R. W. Carwin; "Prevention of Disease of Respiratory Tract," by Dr. A. R. Sallenberger, Colorado Springs; Symposium on the Stomach, participants: Drs. C. D. Spivak, Denver; W. A. Campbell, Colorado Springs; C. A. Powers, M. Kleiner, E. P. Hershey, E. J. A. Rogers, H. B. Whitney, J. E. Kinney, Denver; W. T. Little, Canon City; R. W. Corwin, Pueblo; J. N. Hall, Denver; Geo. A. Molcan, F. G. Byles, S. D. Hopkins, Denver; Geo. P. Libby, Colorado Springs; Robert Levy, J. M. Blaine and I. B. Perkins; "The Buelow Method of Drainage in Pneumopyothorax," by Dr. H. B. Whitney, Denver; "Dislocation of Outer End of Clavicle," by Dr. J. G. Sheldon, Telluride; "Puerperal Infection," by Dr. C. L. Wheaton, Denver; "Medical Education in Colorado," by S. G. Bonney, Denver; "Modern Theories of Immunity," by Dr. Henry Sewall, Denver; "Appendicitis," by Dr. Leonard Freeman, Denver; "Tuberculosis and Its Relation to the Public," by Dr. C. E. Cooper, Denver; "A Case of Schoenlein's Disease," by Dr. C. B. Van Zant, Denver; "A Case of Imperforate Anus with Vulvar Opening," by Dr. W. A. Jayne, Denver.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

(Concluded from page 1224.)

Characteristics of the Stegomyia Fasciata which Affect the Conveyance of Yellow Fever.

DR. H. R. CARTER, Baltimore, read this paper and gave the following summary, among the special characteristics of the stegomyia, which affect its rôle as a carrier of yellow fever:

1. Its distribution is, generally, between latitudes 43 N. and 43 S. on the coasts and low plains of Africa, Asia and the adjacent islands; Australia and the Mediterranean basin of Europe. It is also general on the eastern coast of America from 38 N. to 35 S. latitude. On the west coast it is found at Panama and Guayaquil, and its existence is implied from Guayaquil to Acapulco. In the United States it is general on the coast and low plains of the southern states, except Maryland.

2. It is conveyed by vessels indefinite distances (from Cape Town to Savannah quarantine); in much greater numbers and more often by sail than by steam vessels.

3. It lives a long time—154 days being recorded by Gulteras on an infected insect.

4. Once having acquired the power of transmitting yellow fever, it retains it apparently as long as it lives—59 days being recorded.

A consideration of the four postulates above will render it advisable to safeguard the tropical countries of the East when communication is opened up between them and American ports infected with yellow fever, preferably by freeing the American ports of yellow fever.

5. It propagates preferably in artificial containers, but will propagate in pools where such containers are not available.

6. In America it has been reported only in the vicinity of human dwellings, and seems here not to be a sylvan, paludal or campestrial mosquito.

The war against this insect in America should, therefore, be waged about the houses of men, and especially against water in artificial containers. The introduction of a water supply, piped to every house, so as to do away with cisterns and water jars, is the most important measure of sanitary engineering to free a town of this mosquito. Next to this is a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools are not objectionable on this score.

The stegomyia unquestionably hibernates in the United States, either as adult larva or egg, but if the infected adult hibernates, either a very large proportion of them die, or else the infecting parasite must generally die in the hibernating mosquito. The first seems more probable.

7. It is essentially a house mosquito, and is inclined to stay about the premises where it has fed. Hence, the greater safety of the wholesale district of an infected city as compared with the residence portion.

8. It does not feed in the dark or in bright sunlight. Therefore, in bright daylight or at night without artificial light are the safest times to be in an infected place.

9. The cycle of the yellow fever parasite in the mosquito before it can be conveyed to man is generally, in hot weather, about 14 days or over. Prior to the accomplishments of this cycle (once called the "extrinsic incubation of yellow fever") the mosquito can not convey this disease.

10. It is probably usually conveyed aerially less than 100 yards in Havana the infected insect is believed to be never aerially conveyed 1,500 feet from the Havana shore.

The direction of the prevailing wind during the day influences its aerial conveyance.

The Effect of Lemon Juice in the Mixture Known as Lemonade on Typhoid Polluted Water.

DR. WILLIAM J. BISSELL, Buffalo, N. Y., read this paper as the result of an investigation prompted by a newspaper statement purporting to be from the Chicago Board of Health to the effect that lemonade would kill the typhoid bacilli. The conclusions drawn were: 1. Lemonade can not be depended on in this rôle. 2. This method of sterilizing typhoid polluted water should be discouraged.

Sodium Sulphite—A Dangerous Food Preservative.

DR. CHARLES HARRINGTON, Boston, said that sodium-sulphite is used very extensively as a food-preservative, and, more particularly, for its effect on the color of chopped meat (Hamburg steak) and certain canned vegetables (asparagus and corn). Experiments show it to be a dangerous addition to food.

Studies of Media for the Quantitative Estimation of Bacteria in Water and Sewage.

MR. STEPHEN D. GAGE and MR. GEORGE O. ADAMS, Boston, contributed a joint paper on this subject. Studies of the efficiency of water filters in removing bacteria when estimated by counts on different media, show that there is a considerable variation between the various media, the ratio between the numbers of bacteria in the raw water and in the effluent being affected by the period of incubation, the reaction and the composition of the media. The writers recommend that a standard nomenclature be adopted for the various culture media, the names used to express, as far as possible, the composition of the media.

The Value of Tests for Bacteria of Specific Types as an Index of Pollution.

MR. H. W. CLARK and MR. STEPHEN D. GAGE, Boston, read a joint paper with this title. The colon bacillus is the most numerous type in normal sewage and is accordingly of the most value as a specific indication of pollution. Bacteria of the colon type can be detected in ordinary city sewage in dilutions of 1 to 10,000 to 1 to 100,000. Surface waters having the greatest relative population on their watershed have shown bacteria of the colon type more frequently than others with less population. Ground waters, on the other hand, unless grossly polluted never show bacteria of colon type. Examinations for *B. coli* in different volumes of water show that tests in both one and 100 cubic centimeters should be made, the tests in larger volumes being confirmatory of the tests in the smaller volumes and in cases where a considerable number of samples are taken from the same source tests in the larger volumes usually give more information day by day as to the quality of the water than do the tests in one cubic centimeter.

Epidemics of typhoid fever coincident with the finding of *B. coli* in normally pure waters, i. e., in waters known to be safe under ordinary conditions, but becoming dangerous by the accidental entrance of polluted water, have occurred where, although the entrance of this pollution was known, the danger was not indicated by chemical tests or by an increase in the numbers of bacteria beyond the usual limits of variation for waters of this class.

Report of the Committee on the Significance of Bacillus Coli in Water Supplies.

This report was read by the chairman, Mr. S. C. Prescott. To present a statement of the opinion of the committee individually and as a whole as probably representing the generally accepted views of sanitary bacteriologists as to the significance of *B. coli* in water, the following questions were sent

to each member. The answers appended, except as otherwise stated, were practically as given below. 1. In view of the fact that numerous investigators have found *B. coli* in nature where it could not be directly traced to sewage or fecal pollution, do you believe that the colon test of water is as safe an index of pollution as it was formerly regarded to be? Yes.

2. Are you of the opinion that the number of colon bacilli rather than their presence should be used as a criterion of recent sewage pollution? Yes.

3. To pronounce a water sewage-polluted, would you require as evidence that *B. coli* was present in a majority of one cubic centimeter samples? Yes, in general.

4. Are you in favor of recommending that the examination of large samples for *B. coli*, 100 to 1,000 c.c., be discouraged? Four members say "Yes" in reply, one says "No."

5. In case of a strong presumptive test, what confirmation tests would you require to make certain that the organisms present were *B. coli*? Full set of distinctive cultural tests.

6. In view of the probable presence of streptococci in polluted waters, do you think it desirable that they be isolated as well as *B. coli* to confirm suspicious evidence of pollution offered by *B. coli*? Two would not recommend this; one thinks it would be advantageous occasionally, but not practicable because of increase in routine work; one believes it should be done, when possible, for the sake of securing additional data, and for its general confirmation of the colon test; and one is indefinite.

A Simple Method for the Routine Detection of Colon Bacilli in Water.

DR. WILLIAM ROYAL STOKES, Baltimore, proposes the use of neutral red in a fermentation tube containing 1 per cent. lactose or milk sugar bouillon for the routine detection of colon bacilli in drinking water.

The work of Theobald Smith has shown that the colon bacillus ferments lactose with the production of from 30 to 50 per cent. of gas; that the medium is acidulated, and that the proportion of gas is usually that of one part of carbon dioxide to two of hydrogen. Jordan studied a large number of bacteria isolated from various rivers, and did not find any fermentive bacteria which carried out all of the phenomena in the lactose fermentation tube which is characteristic of the colon bacillus. The writer also isolated a moderate number of fermentive bacteria from the Baltimore water supply, and failed to find any fermentive bacteria exactly resembling the colon bacillus in lactose bouillon in the fermentation tube. In addition to the above characteristics of the colon bacillus in lactose bouillon, this organism causes a characteristic color reaction when neutral red is added to the solution in the proportion of 10 c.c. of a 0.5 per cent. solution to 1 liter. This has been partly described by Irons and others, but they use the test in an ordinary test tube. When used in the fermentation tube, the open bulb remains a port wine color, and the closed bulb a light canary yellow, often showing fluorescence. The curved stem joining the closed and open bulbs shows an abrupt contrast of the colors usually in the middle of the curve. The members of the proteus and cloacæ group usually turn both bulbs yellow, but not always. The method recommended is to inoculate a fermentation tube containing 1 per cent. lactose neutral red in the routine examination of water. If the percentage and amount of gas, the acidity, and the typical yellow-red contrast reaction all occur, the organism can be considered as *Bacillus coli communis*. This is a much shorter method than the isolation in pure culture, which takes from 5 to 7 days, and will also make it much easier to carry out quantitative experiments. These four distinct characteristics would seem to be sufficient to identify the colon bacillus in simple routine work.

The Bacterial Examination of 104 Samples of Water Together with a Detailed Study of the Colon Bacillus.

DR. WILLIAM J. BISSELL, Buffalo, stated the results of an investigation as follows:

1. The amount of gas produced and the production of indol and putrefactive odors are not constant factors with even

true colon bacilli; many of the lactic acid organisms bear a close resemblance to colon bacilli; and it is not safe to depend on presumptive tests alone in determining the presence of colon bacilli in the water.

2. In 104 samples of water from Niagara River examined at respectively 12 and 22 miles below a point where the sewage of over 400,000 people is received, colon bacilli were not found in all cubic centimeter amounts of the sample; there was a decrease in the number of colon bacilli the greater the distance down the stream; the heavy rains did not seem to increase the number of colon bacilli, although the land was used for farming purposes.

3. Colon bacilli can live in well waters at least 109 days, and the human variety seems to have a greater resistance than that from other sources.

4. In polluted water not all cubic centimeter amounts demonstrate the presence of the organisms. The writer believes that many organisms have been mistaken for the colon bacilli in water examinations.

5. There are many wells the waters of which do not contain colon bacilli, even though larger quantities are examined.

Isolation of *Bacillus Coli Communis* from the Alimentary Tract of Fish and the Significance Thereof.

MR. GEORGE A. JOHNSON, New York City, said it has been shown that the colon bacillus is taken up by fish, and multiplies rapidly in the intestinal tract. A search of a large number of fish caught in an unpolluted water failed to reveal this organism in the intestinal tract. It would seem possible, therefore, that fish, having taken up the colon bacillus from a polluted water, might migrate to a water of comparative purity, where they would, naturally, discharge the greatly increased number of these organisms. Whether the finding of the colon bacillus deposited in a water in this manner would depreciate the value of the colon test in the examination of a public water supply is a question. It would certainly appear that if the colon bacillus can be thus easily transferred from one water to another that the transportation of the typhoid bacillus may be considered quite as likely. At least, the above results may explain the apparent phenomenon frequently noted where *B. coli communis* is found in comparatively large numbers in waters apparently open to but remote chances for fecal contamination.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Whitehead's Treatment of Gonorrhea.

Dr. W. H. Whitehead, Atlanta, Ga., whose article in the *Therapeutic Gazette* was reviewed in THE JOURNAL, November 7, page 1160, calls attention to our misunderstanding of one feature: His treatment is intended to be given by the physician only.

Argyrol in Gonorrhea.

R. O. Kevin, according to an abstract in *Med. Rev. of Reviews*, employs the following abortive treatment of gonorrhea if seen during the first twenty-four hours: After washing out the anterior urethra with warm water, two drams (S.00) of a 20 per cent. solution of argyrol are injected into the urethra and retained for ten minutes. This is repeated every three hours, day and night, for three days. According to the author 85 per cent. of the acute cases can be cured in from three to six weeks.

In chronic anterior urethritis or anterior-posterior urethritis, after irrigating with warm boric acid solution, a 20 per cent. solution of argyrol is applied to the urethral mucous membrane by means of a cotton applicator for two or three days. A 5 per cent. solution is used at the same time for irrigation.

In chronic posterior urethritis 5 to 20 per cent. solutions of

argyrol in lanolin are applied to the posterior urethra by means of sounds in addition to deep injections of the 10 per cent. aqueous solution every two or three days. In cases of cystitis, the bladder is irrigated with a saturated solution of boric acid, followed by a $\frac{1}{4}$ to 1 ounce (8.-30.) of a 10 to 20 per cent. argyrol solution injected into the bladder and allowed to remain. He recommends it in all chronic conditions of the cervix, urethra and endometrium as less irritating and more valuable than silver nitrate. It is non-irritating, and although containing 30 per cent. of silver it possesses greater penetrating powers than silver nitrate.

[In a recent discussion on the treatment of gonorrheal ophthalmia, W. T. Wilder presented its value in such cases as surpassing at present any other silver preparation. He employs it in 10 per cent. solutions to be dropped into the eye.]

Epistaxis.

In cases of epistaxis occurring in individuals with marked arteriosclerosis, according to an abstract in *N. Y. Med. Jour.*, mustard plasters may be used to the thighs, hot poultices applied to the back of the neck, and the arms should be elevated. As a snuff to check the hemorrhage the following is recommended:

℞. Antipyrini 3iiss 10
Cocaine hydrochlor. gr. viiss 50

M. Sig.: To be used as a snuff to check nasal hemorrhage; or:

℞. Ext. hamamelidis exsic. gr. xv 1
Antipyrini 3iiss 10

M. Sig.: To be insufflated into the nares to check hemorrhage.

Hydrogen dioxid in its pure state is a valuable agent, also lemon juice or extract of adrenals (1-1,000), forty drops to half a glass of water. Tincture of iron is a very valuable agent used as follows:

℞. Tinct. ferri chloridi 3iiss 10
Aq. destil 3v 20

M. Sig.: To be applied locally to the nares; or:

℞. Gelatin 3iiss 10
Hydrarg. bichloridi gr. xv 1
Sol. sodii chloridi (7-100) Oii 1000

M. Sig.: Locally as an application.

A tampon saturated in the following solution is recommended, held in the affected nostril for five minutes:

℞. Cocaine hydrochlor. gr. xv 1
Aq. destil. 3iiss 10

M. Sig.: Locally to the affected part.

To Reduce the Alkalinity of Urine.

Attention has been called by R. Hutchinson, in *British Med. Jour.*, to the value of acid sodium phosphate as an acidifier of urine. According to this author it has the greatest acidifying power of any preparation employed. It is a valuable agent in the treatment of cystitis, accompanied by the use of urotropin, which produces its best results in acid urine. The foregoing preparation is readily soluble in water, and may be given in doses of 30 (2.00) to 60 grains (4.00) every three or four hours if necessary.

Injections of Iodo-ether in Exophthalmic Goiter.

Abodie and Collon, in *Prog. Med.*, recommend the following combination as an injection in the treatment of exophthalmic goiter:

℞. Iodoformi 3i 4
Spts. etheris 3v 150

M. Sig.: Fifteen minims injected into the enlarged gland every second or third day.

By this mode of treatment improvement was noted in the headache, polyuria and neuralgic pains as well as a reduction in the rapid heart action and the tremor.

Adrenalin and Atropin.

R. Mengelburg, in *Annals of Ophthalm.*, lays great stress on the fact that a combination of adrenalin and atropin is liable to produce symptoms of atropin poisoning, even in very small quantities. In several cases, although no idiosyncrasy to

atropin was present when given alone, marked effects were produced by combining the two. His explanation is that through adrenalin the vessels of the mucous membrane of the canaliculus are much contracted and consequently the mucous membrane is made much thinner and the canal more patent, and in this way a larger opening is made through which the atropin can pass into the tear duct and from thence into the nose. He, therefore, advises extreme caution in using this combination.

Symptomatic Treatment of Phthisis.

The principal symptoms to be considered in the symptomatic treatment of phthisis, according to *The Pract.*, are the cough, night-sweats, occasional pains in the chest, digestive disturbances and hemoptysis.

COUGH.

In treating the cough it must be kept in mind that to a certain extent it is a salutary measure in that it tends to expel from the lungs a certain number of bacilli and other products. As a sedative for the cough at night the following combination is recommended:

℞. Liq. morphine gtt. iii 20
Vini ipecacuanhæ gtt. v 30
Oxymel scillæ gtt. xv 1
Theriace 3i 4

M. Sig.: At one dose for the cough, to be repeated as necessary.

Heroin may be substituted for the liquor morphin in the foregoing combination if preferred. In the early morning, if the cough is troublesome, much can be accomplished by the administration of some warm drink as hot milk or cocoa. During the day an inhaler may be used to advantage to check the cough and to disinfect the air passages. The following is of value as an inhalant:

℞. Olei eucalyptus
Spts. menthol
Spts. chloroformi, aa 3i 4

M. Sig.: Twenty to thirty drops to be inhaled three or more times through the day for half an hour or more each time.

THE NIGHT-SWEATS.

Tepid sponging at bedtime with an alcohol solution or vinegar water serves a good purpose, together with a drink of cold milk containing a little brandy. If this plan of treatment does not fulfill the needs the following pill should be given:

℞. Zinci oxidi gr. ii-iv 12-25
Ext. belladonnæ gr. $\frac{1}{8}$ - $\frac{1}{4}$ 008-015

M. Ft. pil. No. i. Sig.: One to be taken at bedtime.

Atropin sulphate gr. 1/100 (.0006) may be substituted for the foregoing, given hypodermically.

PAINS IN THE CHEST.

The pains are probably due to slight attacks of pleurisy. These may be relieved frequently by the application of some simple liniment or by painting the affected areas with iodine. The turpentine liniment proves effectual in most cases.

DIGESTIVE DERANGEMENTS.

It is of vital importance that the patient take as much nourishment as possible. To avoid digestive derangements a stomachic mixture such as the following is of service in improving the appetite and avoiding digestion:

℞. Tinct. nucis vom. 3i 4
Sodii bicarb. 3ii 8
Tinct. cardom. co. 3ss 15
Tinct. gentianæ co. q. s. ad. 3ii 60

M. Sig.: Shake and take one teaspoonful three times a day.

If the digestion should then become disturbed the fatty materials should be cut down, give rest in bed and increase the elimination by the bowels by means of small doses of calomel.

DIARRHEA.

The diarrhea in phthisis may be simply due to overfeeding or otherwise to organic lesions in the alimentary tract, such as tubercular ulceration or amyloid disease. In the former instance a milk diet should be temporarily resorted to, and if

there are organic changes a starch and opium enema may be of use or the following combination given by the mouth:

R. Plumbi subacetatis	gr. ii	12
Liq. morphine	m. v-x	30-65
Acidi acetici dil.	m. x	65
Aq. chloroformi	3i	4
M. Sig.: At one dose, to be repeated three times a day; or:		
R. Bismuthi salicylatis	gr. xx	130
Sodii bicarb.	gr. xv	1
Mucil. acacie	gr. x	65
Aq. menth. pip.	3i	4
M. Sig.: At one dose, to be repeated once or twice daily.		

HEMOPTYSIS.

If necessary to check hemoptysis a hypodermic injection of morphin gr. $\frac{1}{8}$ - $\frac{1}{4}$ (.008-.015) is probably the best treatment to quiet the patient and soothe the heart's action, which in turn aid in checking the hemorrhage. The patient should be instructed to lie quietly in bed, not speaking to anyone or even turning in bed. No food should be given for six or eight hours, when it should consist of cold or iced milk. Thirst may be relieved by sucking cracked ice. Ergot is not recommended on account of its tendency to raise blood pressure.

Calcium chlorid, gr. x-xx (.65-1.30), may be given to increase the coagulability of the blood. Turpentine is of value given as follows:

R. Spts. terebinthinae	3ss	2
Mist. amygdala	3ii	8
M. Sig.: At one dose.		

If syncope should occur a teaspoonful or more of brandy should be given as a slight stimulant. The after-treatment of hemorrhage consists in correcting the anemia with preparations of iron.

Some authors recommend the following combination to check pulmonary hemorrhage:

R. Stypticin	gr. i	06
Plumbi acetatis	gr. ii	12
Pulv. digitalis	gr. i	06
Pulv. opii	gr. ss	03
M. Ft. cap. No. i. Sig.: One such every four hours.		

Aqueous Preparations of Menthol.

M. Cresantignes, in *Jour. Amer. Med. Sci.*, has found menthol to be a valuable anti-emetic given in an aqueous solution without the addition of a large amount of alcohol. To prepare an aqueous solution he recommends the following formula:

R. Menthol	gr. v	30
Tinct. quillaja	3i	30
Aq. destil	3v	150

M. By dissolving the menthol in the tincture, add a small amount of glycerin and then add to the water in small quantities at a time. Sig.: Shake well and take two teaspoonfuls at a dose. Several teaspoonfuls may be taken at a time if necessary as the amount of menthol in each teaspoonful is very small. For external application the following combination is recommended:

R. Menthol	3v	20
Tinct. quillaja	3iii	12
Aq. destil	3viiss	200

M. Sig.: To be applied as a wet compress for a few minutes at a time, followed by a compress of fresh water.

And as a gargle and mouth wash the following is recommended:

R. Menthol		
Tinct. quillaja, aa.	3i	4
Solutionis acidi borici (saturated aqueous)	3vi	180

M. Sig.: To be used as a gargle or mouth wash.

Employment of Heart Tonics Before an Anesthetic.

To overcome any cardiac enfeeblement which occurs in many patients previous to undergoing an operation, Feilchenfeld of Berlin, according to an abstract in *Medicine*, administers six drops of the tincture of strophanthus for two or three days preceding the operation. According to his statements too much stress is laid on the presence of valvular lesions and not sufficient attention given to the action of the

heart. In individuals who are nervous and whose cardiac action tends to run up on slight provocation or where marked feebleness of pulse is shown, the administration of strophanthus or some similar heart tonic prior to an operation is very advantageous and important.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Connecticut—Obtaining Treatment by False Pretenses.—Chapter 27 of the Public Acts of Connecticut of 1903 provides that any person who obtains medical or surgical treatment from any dispensary located in the state on false pretenses or representations as to his place of residence or as to his pecuniary circumstances shall be fined not more than \$50.

Connecticut—Licenses of Other States—Re-examinations.—Chapter 71 of the Public Acts of Connecticut of 1903 amends section 4715 of the general statutes, on requirements for obtaining certificate of registration, adding the provision that any one of the examining committees appointed under the provisions of section 4716 may accept the license of any state examining board in lieu of an examination, provided the applicant shall present satisfactory evidence (1) that such license has been issued after an examination of as high a grade and of the same kind as required in Connecticut; (2) that he is a resident of Connecticut, or that he intends to permanently reside therein; (3) that he has been in actual practice for at least six months in the year immediately preceding his application, and (4) that he is of good moral character and professional standing. The fee will be \$15. Section 4718 of the general statutes, relating to examinations, etc., is amended by striking out the words: "An applicant, rejected by an examining committee, shall not be eligible to re-examination until after the expiration of twelve months," and inserting in lieu thereof the following: "An applicant rejected by an examining committee shall not be eligible to examination before either of the other examining committees until after the expiration of twelve months, but may be re-examined by the committee before whom he appeared, at any subsequent meeting of said committee."

New Hampshire—Prohibits Spitting in Public Places.—Chapter 2 of the Laws of New Hampshire of 1903, entitled "An act to promote cleanliness and to protect the public from the disease commonly known as consumption," provides, among other things, that it shall be unlawful for any person to spit on any sidewalk, in the compact part of any city, village or town, or in any railway station, hall or other public place, or in any street or steam railway car other than smoking cars, except into spittoons or other receptacles provided for that purpose.

New Hampshire—An Act in Relation to Smallpox.—Chapter 45 of the Laws of New Hampshire of 1903 provides that it shall be the duty of every physician who attends any person whom he suspects is infected with smallpox to immediately report the same to the health officers of the town in which said person then resides, or if there be no health officers, then to the selectmen of the town, who shall immediately quarantine such person, and if there be doubt whether such person is suffering from smallpox, then said health officers or selectmen shall immediately notify the state board of health and request it to investigate the case immediately. If any physician, health officer or selectman neglect so to do he shall be fined the sum of \$100.

New Hampshire—College Course to Count One Year.—Chapter 115 of the Laws of New Hampshire of 1903 amends section 7 of chapter 63 of the laws of 1897, entitled "An act to regulate the licensing and registration of physicians and surgeons," by adding at the end of the fourth requirement, which is that the candidate has studied medicine not less than four full school years, the provision that the regent shall accept "as the equivalent of the first year of the fourth requirement evidence of graduation from a registered college course; pro-

viding that such college course shall have included not less than the minimum requirements for such admission to the second year of a medical school registered as maintaining at the time a satisfactory standard."

New Hampshire—Sanatorium Treatment for Indigent Consumptives.—Chapter 184 of the Laws of New Hampshire of 1903, a joint resolution, authorizes the state board of charities and correction to send such indigent consumptive patients as are suitable for remedial treatment to a sanatorium for treatment, the board to pay for the care, treatment and support of such patients only the actual cost of their maintenance in the sanatorium. Persons in indigent circumstances, who themselves or by their relatives are able to pay part of the cost of maintenance, may be admitted to the sanatorium and maintained and treated therein at the expense of the state to that extent that they can not, by themselves, or relatives chargeable therefor, pay such cost of maintenance, when the state board of charities and corrections so certify and stipulate the proportion the state will assume and pay.

New Hampshire—State to Care for Dependent Insane.—Chapter 61 of the Laws of New Hampshire of 1903 provides that the state, from Jan. 1, 1909, shall have the care, control and treatment of all insane persons now cared for by the various counties; and no county shall hereafter establish any asylum or other additional structure for the insane, nor after said date maintain any institution for the insane, or be liable for the board, treatment, care or act of any insane person. From and after the passage of this act, the state board of lunacy may order the removal of all such dependent insane persons to the state hospital for remedial treatment as in their judgment seems proper, and such persons shall be supported at the expense of the state. After Jan. 1, 1905, as rapidly as accommodations can be provided, the state board of lunacy shall transfer from the various county almshouses to the state hospital such insane persons as in their judgment seem most suitable, such transfers to be made pro rata to the population of the several counties.

New Hampshire—Creates Office of Medical Referee.—Chapter 134 of the Laws of New Hampshire of 1903 provides that the governor shall nominate and, with the advice of the council, shall appoint in each county from one to three able and discreet men, learned in the science of medicine, to be medical referees in such county as they shall reside, who shall hold the office for a term of five years, subject to removal at any time for cause. When a medical referee has notice that there has been found or is lying within his county the dead body of a person who is supposed to have died by violence or unlawful act, he shall take charge of the same, and if, on view thereof and personal inquiry into the cause and manner of death, he deems a further examination necessary, he shall notify the county solicitor of the county, and on being authorized by the solicitor in writing, shall make an autopsy in the presence of two or more persons, one of whom shall be a physician whose attendance he may compel by subpoena if necessary, and shall reduce, or cause to be reduced, to writing every fact and circumstance tending to show the condition of the body and the cause and manner of death, with the names and addresses of the witnesses giving evidence. If on such view, with personal inquiry or autopsy, the referee is of the opinion that the death of the person was caused by violence, criminal or otherwise, he shall at once notify the attorney-general and the county solicitor. He must also make return of the death to the city or town clerk. With the advice and consent of the attorney-general or county solicitor, he may, if he deems it necessary, call a chemist or other expert to aid in the examination of the body or of substances supposed to have caused or contributed to the death. The fees to be allowed shall not exceed, for a view and inquiry without autopsy, \$5; for a view and autopsy, \$25; and mileage. When it is deemed necessary by the medical referee and county solicitor to have a physician or surgeon present at an autopsy as one of the witnesses, such physician or surgeon shall be allowed a reasonable compensation to be audited by the medical referee and county solicitor.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

November 7.

- 1 *The Dwarf Tapeworm (*Hymenolepis Nana*), a Newly Recognized and Probably Rather Common American Parasite. Charles W. Stiles.
2. The Operative Treatment of Chronic Bright's Disease; a Second Communication, Based on Reports of 120 Cases. (To be concluded.) Ramon Gutieras.
- 3 *The Importance of the Physical Examination of the Abdomen as a Routine Practice Irrespective of What Be the Symptoms. Mark I. Knapp.
- 4 *Deep Breathing. Richard C. Newton.
- 5 *Some Points in the Treatment of Hip-Joint Disease. George B. Packard.
- 6 Some Principles on which is Based the Therapeutics of Electricity in Nervous Diseases. A. D. Rockwell.

1. Dwarf Tapeworm (*Hymenolepis nana*).—Stiles describes this parasite, and thinks it is more common in this country than is generally supposed. He has had probable evidence of its occurrence in various portions of the southern states and as far north as Washington and Philadelphia. Infection, he thinks, takes place through the infection of food by rats and mice, and, while as a local parasite the symptoms may be slight, the animal possibly possesses a toxin that plays a considerable part in producing serious infectious symptoms in certain cases. The diagnosis is somewhat difficult on account of the smallness of the parasite and the minute portions evacuated. The best method is to examine microscopically and find the characteristic eggs. The only drug that is of use in its treatment is male fern. Prophylaxis consists in cleanly personal habits; keeping mice and rats away from the food supply, and if a person is found to have the dwarf tapeworm he should sleep alone until he is rid of it.

3. Physical Examination of the Abdomen.—Knapp insists on the importance of thorough examination of the abdomen, and describes the methods of palpation and inspection.

4. Deep Breathing.—Newton sums up his paper in the following after showing the evil consequences of the practice of shallow breathing:

1. Deep breathing is essential to good health, and is in many cases a valuable therapeutic measure.
2. Its importance is not at all generally appreciated.
3. It should be a part of every child's education.
4. It is especially indicated for backward and sickly children.
5. The profession owes it to itself to study more deeply this vital question and to be able to instruct the laity fully on all its bearings.

5. Hip-Joint Disease.—The importance of allowing some functional use of the affected member in case of hip-joint disease is pointed out by Packard. He thinks that a certain amount of exercise should be employed as early as possible, and that this is preferable to the common practice of prolonged fixation and disuse. He suggests other points and insists on favorable surroundings, good hygienic conditions, diet, treatment of anemia, etc., as may be necessary.

Medical News, New York.

November 7.

- 7 *Mastoid Disease and Extradural Abscess. Seymour Oppenheimer.
- 8 *Precipitins and Their Medicolegal Use. (To be continued.) James Ewing and Israel Strauss.
- 9 *A Study of Immunity. Ehrlich's Side-chain Theory. F. M. Pottenger.
- 10 Report of a Case of Acute Glaucoma Incited by the Use of Euphthalmine for Diagnostic Purposes. Henry W. Ring.
- 11 Circular Laceration of the Cervix Uteri. Hugh Crouse.

7. Epidural Abscess.—Oppenheimer discusses the relation of mastoid disease and extradural abscess, the usual etiologic rationale being based on the thin wall separating the lining membrane of the mastoid cells from the meninges becoming necrotic. There may be other pathologic elements such as tuberculosis, etc. Epidural abscess is the most frequent intracranial complication of mastoid empyema, and may be the cause of the sinus infection or development of a brain abscess. Picqué and Ferrier claim that more than one-half of all the cases of epidural abscess arise from mastoid disease. The two most common sites for the development of pus collection are: (1) In the posterior fossa near the vertical

portion of the groove for the lateral sinus, and (2) in the middle fossa on the superior surface of the osseous tissue forming the roof of the antral cavity. If the mastoiditis travels backward the perforation will probably be through the thinner tissue above mentioned, while in some cases the tendency is upward and inward, and the abscess develops in the middle cranial fossa. The dangers are greatest when close to the sinus on account of the tendency to secondary inflammation and thrombosis. The symptoms may be non-characteristic, but if the local meningitis becomes sharply defined it may become of diagnostic import. In uncomplicated cases pyrexia is very slight or absent, as a rule. There may be headache and other subjective symptoms. When the abscess is extracranial there is generally a rise of temperature, and if aural disease will not account for the condition, intracranial complication should be suspected. If there is a high temperature at the beginning and other symptoms indicating epidural abscess, a complication of sinus thrombosis may be looked for. If the temperature is not high enough to suggest either thrombosis or meningitis, the question of cerebral abscess will have to be considered, but the absence of localizing signs and of subnormal temperature will aid in eliminating this factor. Localizing symptoms may occur from pressure on the brain, and head pain is one of the most constant and valuable symptoms, and is often limited. The pulse rate varies with the degree of associated meningeal irritation. Rigors are rarely present, and if they occur suggest a sinus complication. Optic neuritis is rarely found. Vomiting may occur with exacerbation of pain, also vertigo, but these latter have little diagnostic value. Under the best conditions the diagnosis is indefinite, and in many cases the surgeon can not determine the presence of pus before operation. The lack of high temperature, rapid pulse, irritability, etc., separate it from meningitis, as a rule. If the diagnosis is still in doubt in the presence of meningeal symptoms lumbar puncture should be performed. If it gives negative results, epidural abscess or sinus phlebitis, or both, are probably present. A bone fistula connecting with the cranial cavity is an indication of abscess, and a doughy swelling behind the meatus is significant. Cases are reported and a bibliography given. The infection in these instances was polymicrobial. The termination of an epidural abscess, if not recognized, will depend on the direction it takes in the destruction of tissue. It may point downward and spontaneously evacuate, but, ordinarily, neglect is dangerous. In recognized cases the prognosis as regards cure is favorable if the abscess is evacuated. No other treatment than surgical release of the purulent collection is to be considered.

8. Precipitins.—Ewing and Strauss' article is largely a critical historical summary of the facts from the literature. They, however, give briefly the results of some experiments on the changes in precipitin substances and the specificity of precipitins recognized. They find that in order to obtain the specific reaction in the human blood free from the danger of error from the personal equation they had to dilute antisera from the rabbits in their experiments, at least 1 in 30, and require a flocculent precipitate within three hours at 37 C. (This article is to be continued.)

9. Immunity.—Pottenger's article contains nothing specially new.

American Medicine, Philadelphia.

November 7.

- 12 *The Treatment of Puerperal Sepsis. E. E. Montgomery.
- 13 *Hyaline Bodies in Tumors and Kindred Other Conditions. Randle C. Rosenberg.
- 14 Empyema. I. R. Trimble.
- 15 *Obstipation: Its Causes, Effects and Treatment. John L. Jelks.
- 16 *Nostalgia and Melancholia in the Tropics. E. S. Corson.
- 17 Case of Post-typhoid Infection of a Rib. Alfred I. Ludlow.
- 18 A Study of School Hygiene, Development of Children and Preventive Medicine. Alice M. Smith.

12. See abstract in THE JOURNAL of October 31, p. 1105.

13. Hyaline Bodies in Tumors.—Rosenberger has observed these bodies in malignant and benign tumors, in juice as well as in stroma, and sometimes within the cells, and describes their appearance. He quotes at length from the literature, and his conclusions are as follows:

It is seen from the specimens studied that these bodies were observed with great regularity.

They were in most cases quite deeply situated in the tissues, while a great many more were seen intracellularly.

Some of them gave quite a typical reaction of amyloid material, while the greater number failed to give this reaction. Treating them with dilute hydrochloric acid failed to produce effervescence.

It seems to me that they correspond most closely to the fuchsin bodies described by Russell, and that they really represent some degenerative change occurring in the cell or cell nucleus. That they play some part in the etiology of the conditions in which they are found seems doubtful, notwithstanding the fact that they are found deeply situated and intracellular. They do not possess the peculiar intracellular characteristics which Pinner's bodies do, being distinctly hyaline. They may, however, represent a hyaline or amyloid degeneration of blastomycetes.

The fact that cultures were not obtainable in any case on various media and the failure to demonstrate true budding seems almost positive proof that they are not blastomycetes.

15. Obstipation.—Jelks calls attention to the various causes of obstipation, especially the extravisceral, including conditions of the uterus, prostate, etc.; perivisceral, such as cicatrices, tumors; visceral, including volvulus and neoplasms, and intravisceral, including intussusception, foreign bodies, fecal impaction and valvular obstruction. Each of these possibilities is briefly mentioned, the latter more at length. He thinks obstruction by Houston's valves is prolific of more trouble than all the other causes together, but he wishes to insist on the importance of recognition of the fact that other causes also may be considered.

16. Nostalgia in the Tropics.—Corson finds that the isolation and monotony, the depressing conditions of climate and the attacks of special diseases of the unacclimated persons in the tropics are conducive to homesickness and melancholia. He suggests frequent change of residence, sanatoria at high altitudes, prevention of self-medication and return home where practicable. He sums up thus:

Americans, owing to their strenuous mode of living and the depressing conditions of the tropical climate, are especially liable to nostalgia and melancholia.

Persons suffering from nostalgia should be watched, and when it is complicated by melancholia they should be advised to return home at once.

Sanatoriums at high altitudes, if not already provided, should be exploited at once for the recruiting of the health of soldiers and civilians. Only the government can do this.

An especial effort should be made to educate all persons residing there as to the best methods of living for the preservation of health.

Boston Medical and Surgical Journal.

November 5.

- 19 *On Gastric Tetany. B. G. A. Moynihan.
- 20 *A Study of Pathologic Fermentation in the Stomach. Henry F. Hewes.
- 21 *Internal Medicine, to What Extent Required or Elective in the Medical Course. S. G. Bonney.
- 22 *Observations on the Iodin Reaction in Children. Charles H. Dunn.

19. Gastric Tetany.—Moynihan reviews the symptoms and the theories of the cause of this condition, giving most favor to the auto-intoxication theory as being most in accordance with the facts observed. The possible reflex action from sensory stimulation of the stomach nerves may also have its part. The connection of gastric tetany with the condition of the kidneys is a matter also to be studied. The fatality of the disease is especially noted. It occurs so late in the conditions which give it rise that it is generally hopeless. Earlier adoption of surgical measures in chronic gastric ulcer, pyloric stenosis, etc., in the late stages of which tetany appears, would probably prevent its occurrence in many cases.

20. Gastric Fermentation.—Hewes has studied the conditions of gastric fermentation in a case which is reported in full, and finds four bacterial types existing which he thinks are responsible for the pathologic condition. They were as follows: (1) A coccus growing in small white colonies on the gelatin; (2) a short bacillus growing in small white colonies and giving evidence of gas formation on the gelatin; (3) a long bacillus growing in large creamy white colonies and liquefying the gelatin; (4) an organism growing in white colonies and answering to the morphologic characteristics of the sarcinae ventriculi. These were observed only once. He has isolated all these in tube cultures. The first three produced alcohol and gas (CO₂) and some form of organic acid at some stage in the fermentation. It does not follow that these are the sole causes, but he thinks that future investigation of the subject, consisting in the identification and study of these

bacterial ferments, may give further results which will be reported in another article.

21. This article was abstracted in *THE JOURNAL*, xl, p. 1602.

22. **The Iodin Reaction in Children.**—This reaction, which was described by Cabot and Locke (see abstract in *THE JOURNAL* of Feb. 22, 1902, p. 519), has been tested on the blood of children in the Children's Hospital at Boston, and the results are given. Dunn finds that it is always present, usually of average, and often of marked, intensity, a high percentage of cells being affected, in the following conditions: Lobar pneumonia, bronchopneumonia, cerebrospinal meningitis, influenza, empyema, non-tubercular suppuration, and also in single cases of appendicitis, diphtheria and starvation. It is usually present in typhoid fever and miliary tuberculosis, but may be absent, and it may be present or absent in anemia. It is usually absent, but may occur in nephritis, cardiac valvular disease and tuberculosis. It is absent in pleurisy with effusion, functional indigestion, rachitis, articular rheumatism, congenital cardiac diseases, chorea, infantile atrophy, and was never encountered in single cases of bronchitis, eczema, purpura, urticaria and scorbutus.

Medical Record, New York.

November 7.

23 *Surgical Interference in Hypertrophic Biliary Cirrhosis of the Liver. Julius Rosenstirn.

24 *Filariasis in Porto Rico. Bailey J. Ashford.

25 Treatment of Cancer of the Uterus. I. L. Watkins.

26 *Investigation of Rinderpest. J. A. Guthrie.

27 Some Practical Points Taught by the Discovery of B. Dysenteriae in the Stools of Infants Suffering from Summer Diarrhea. Louis M. Warfield.

28 *Hemospermia, with Report of a Case. Arthur L. Chute.

23. **Talma's Operation.**—Rosenstirn reports two cases. In the first an erroneous diagnosis of adenoma of the liver was the reason for the laparotomy. When the true nature of the hepatic cirrhosis was discovered, the omentum, gall bladder and liver were sewed up to the parietal peritoneum with good results. The second case was one of Hanot's cirrhosis; the operation planned deliberately and the condition of the patient fully reported. The results were also good in this case. The theory of the relief of obstruction of the blood circulation being not sufficient in explaining the effect of the operation in this latter case, Rosenstirn suggests the possibility of the deficient neutralization of toxins by the liver as a cause of the disorder. It is possible, he says, that there is in this disease primarily a hypertoxicity of the blood which, passing through the liver, causes new tissue growth, and the liver is unable to cope with the conditions. Obstruction in the biliary canaliculi and the consequent retention of the bile may furnish a special avenue for the toxins to reach the cardiac circulation, so that they can not be successfully fought except by establishing another more round-about method of circulation, which is furnished by this operation.

24. **Filariasis in Porto Rico.**—Ashford has observed the incidence of this condition in Porto Rico, and concludes that at least about 10 per cent. of the people are affected. He reports cases in the mounted battalion of the Porto Rican Provisional Regiment, showing that about 12 per cent. of the soldiers were thus affected, presumably before their enlistment. In 5 cases there was strong presumptive proof of this in the families; all had been exposed; all were young men; most of them three years in the service without serious illness, and they were from all parts of the island. All but 4 had had attacks of inguinal or femoral adenitis with chills, fever, pain and a red line in the inner aspect of the leg and thigh at varying intervals. Six had had chyluria. He thinks the people living in the crowded districts in Porto Rico are liable to the infection, and sleeping out of quarters is dangerous. While the disease perhaps is not often followed by very serious consequences, yet it is a serious menace to the subject.

26. **Rinderpest.**—Guthrie has observed the methods of inoculation immunization of cattle against rinderpest as practiced in Hong Kong by those supplying the carabao for the United States government at Manila. He finds that the disorder corresponds almost exactly in its type with acute dysentery in the human being. The inoculation is a simple one: 10

c.c. of virulent blood from another bullock with the disease in progress and 50 c.c. of prepared serum from an inoculated animal are injected. The inoculation is repeated in five days, sometimes in less time; sometimes two or three extra injections are given. It is hoped that by continuous working in this way an immune breed of cattle will be produced.

28. **Hemospermia.**—This condition of the ejaculation of blood-stained seminal fluid is an uncommon one. It is not in itself a disease, and usually gives more trouble to the possessor than it should, and may occur in the various disorders of the genito-urinary organs, or sometimes without any pre-existing affection. A case is reported by Chute and a number of others are cited from the literature. The prognosis varies with the nature of the lesion. In most instances it is due to chronic inflammatory lesions of the posterior urethra, prostate or seminal vesicles. The prospect for recovery is usually good; of course, if due to malignant disease the prognosis is bad. The treatment should be directed to the causative lesions. Massage is often a very important adjunct in inflammatory cases. The only case he finds on record in which treatment failed is one connected with the hemorrhagic diathesis.

Cincinnati Lancet-Clinic.

November 7.

29 *Injuries of the Spine and Their Treatment. John C. Oliver.

30 *A Report of the Principles of Diagnosis and of Medical Malinger. John Puntun.

31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Injuries of the Spine.**—The statistics of the Cincinnati Hospital, and also the cases in his own private practice, are reported by Oliver, who insists on the importance of early operation in all cases where any evidence of activity on the part of the spinal cord exists. Good results where total abolition of function is present are not to be expected. The mortality is considerable, either with or without operation, and the majority of the patients remain paraplegics. Operation offers the only means of correctly demonstrating the condition. It may be successfully performed, he says, at a much later period than that formerly thought possible.

30. See *THE JOURNAL*, Oct. 24, p. 1041.

St. Louis Medical Review.

November 7.

32 Some Remarks About the Climate of the Southwest, and the Treatment of Tuberculosis. B. F. Stevens.

Journal of Nervous and Mental Diseases, New York.

November.

33 *Three Cases of Tumor Involving the Spinal Cord; Treated by Operation. James J. Putnam and J. W. Elliott.

34 *A Method for the Relief of Pain in Tumors of the Brain. William Browning.

35 *Triceps, Biceps and Finger Clonus. Theodore H. Welsenburg.

36 *Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. (Continued.) G. Alfred Lawrence.

33. **Spinal Tumors.**—The first case reported by Putnam and Elliott was that of a young man who had, as a sequel to an accident, a tumor in the cerebrospinal region at the level of the second and third cervical vertebrae, which caused paralytic involvement of all four limbs, of the costal muscles and even of the diaphragm. An operation was performed, and a tumor the size of an acorn, which was, pathologically, identified as a giant-celled sarcoma, was removed. The condition improved rapidly after operation, but suffered a partial relapse, and then a recurrence of improvement, so that at the present time the patient is in active life, and claims to be steadily gaining. There is a spasticity of gait and some restriction of the rotation of the head and considerable reflex excitability. It is noted as the first instance in which an operation has been performed for tumor at this level, and is important as showing what can be done even in so malignant a type as sarcoma and how long the tendency to recurrence can be delayed. The second operation was one for carcinoma of the last dorsal and upper lumbar vertebrae. It was decidedly relieved by operation, but the patient finally succumbed several months afterward. Both the patient and her husband admitted that there was a marked relief from pain after the operation.

had been performed. The third case was one of fibrosarcoma in the lower cervical region encircling the cord and dura. A dissection was made and the growth removed. The dura was penetrated in one place and a large amount of cerebrospinal fluid escaped. The patient died five days after the operation.

34. Brain Tumors.—The method for the relief of pain here suggested by Browning consists in the administration of such depressants as aconitia, veratrum or gelsemium in doses sufficient to control the pulse, thus relieving, he claims, the intracranial blood pressure. It can not in every case and at all times stop pain, but it relieves it, and will often be all that is required for this purpose, even though the condition has existed for many months. He believes the classes of cases that it is likely to relieve are those where there is more or less general increase of the intracranial pressure, which occurs most typically in intrasubstantial growths. The pain is less intense, but more continuous. It may be still more useful in cases where there is paroxysmal augmentation of the arterial pressure with terrific pain seizures. Where, on the other hand, the pain is the result of the direct implication or stretching of the external structures, as the meninges and outgoing nerves, we have neuralgia and localized pain, and the good to be realized from depressants may be only proportionate to the amount in which the pressure is the factor. As far as he has observed in his practice with this method, no injurious effect has been produced on the course of the trouble itself. If anything, the life has been prolonged. The tendency to brain hemorrhage which exists in some of these cases is also favorably influenced by treatment. In cancer cases the use of depressants may also have a diagnostic value.

35. Triceps, Biceps and Finger Clonus.—These peculiar reflexes are not noted in many works on nervous diseases, and Weisenburg therefore calls attention to their occurrence. He has seen triceps clonus in a general paralytic; still more typical in hemiplegia in an alcoholic case. In this case there was also biceps clonus. Finger clonus was observed in a case of right-sided hemiplegia of long standing.

36. Paresis.—Lawrence's article is continued. The installment in this issue is entirely given to the pathologic findings.

The Laryngoscope, St. Louis.

October.

- 37 *The Technic of Maxillary Sinus Operations. H. Holbrook Curtis.
- 38 *The Arch of the Palate. Henry L. Swain.
- 39 *Cicatricial Deformities in the Respiratory Tract Due to Causes Other than Syphilis and Traumatism. G. Hudson Makuen.
- 40 Subglottic Tumors of the Larynx. Richard H. Johnston.
- 41 The Inefficiency of the Wilde Incision. J. Morrison Ray.
- 42 New Laryngeal Instruments. Seth Scott Bishop.

37. Maxillary Sinus Operations.—Curtis goes at considerable length into the various operations for antral diseases. He favors the Luc-Caldwell operation as in many respects most satisfactory, but he also describes the operation through the inferior meatus, which has the advantage of requiring no anesthetic. It is performed by first cocaineizing the inferior turbinate, cutting away its anterior third and bringing into view the outer wall of the meatus. He then makes a perforation with a trephine at a point a quarter of an inch above the nasal floor. As soon as the wall is perforated the trephine is changed for an olivary or barrel burr drill, enlarging the orifice upward, downward and backward. He then stuffs in some gauze wet with adrenalin solution to stop the bleeding, and by using properly curved, flexible ring curettes can reach the wall of the antrum very satisfactorily. He prefers the trephine for its ease in entering the wall of the meatus. He says he would favor a permanent drain for this region, since it can be useful whether the disease is local or connected with that in other diseased cavities. The article is fully illustrated.

38. The Arch of the Palate.—Swain has investigated the growth of the arch of the palate in a number of skulls, including those of Flathead Indians. His theory as to the cause of the arch is that it grows down with the growth of the skull. Nasal stoppage and mouth breathing tend to raise

it by checking this growth. He says from a personal study we may conclude that it has been demonstrated:

1. That it is possible by deforming processes which artificially alter the shape of the skull to produce a change in form and shape of the hard palate. 2. That under these above-mentioned conditions the septum seems to conform itself to the altered development of the rest of the face, rather contrary to our previous ideas regarding the habits of this structure. 3. That if from arrested or retarded development of the superior maxilla, the palate falls to descend to its proper level, a bent septum is as liable to be produced as when the palate is arched too greatly by an unnatural narrowing process. Hence a palate of perfectly normal height as compared to breadth may produce a bend in the septum. 4. That in considering the various causes which produce the abnormalities of the palate, we must lay more stress on the lack of proper aëration of the maxillary sinuses retarding their development, and hence that of the whole superior maxilla. 5. The conservation and general care of the deciduous teeth help to produce a normal horizontal curve in the hard palate and lessen the tendency to narrowing.

39. Cicatricial Deformities in the Respiratory Tract.—Makuen endeavored by correspondence to find out the frequency of such deformities due to other causes than syphilis and traumatism, and reports his results. He found that 300 observers have seen 449 cases of cicatricial deformities not due to these causes. That 16 per cent. of these were caused by diphtheria, 8 per cent. by scarlatina, 3 per cent. by lupus, 1.6 per cent. by tuberculosis and 1.5 by scarlet fever and diphtheria combined, with 1.1 per cent. by typhoid fever and .5 per cent. by measles. Other causes mentioned are membranous rhinitis, catarrhal erosion, smallpox, scleroma, septal abscess, erysipelas and pemphigus. These facts, he says, emphasize the importance of giving more careful attention to the nose and throat in the treatment of the above-mentioned diseases.

Archives of Otolaryngology, New Rochelle, N. Y.

October.

- 43 *On Hemorrhage from Arrosion of the Brain Sinuses in Suppuration of the Temporal Bones. H. Eulenstein.
- 44 General Sepsis in Chronic Suppuration of the Middle Ear, with a Central Perforation of the Drum. Professor Bezold.
- 45 *Cheesy Empyema of the Nasal Accessory Sinuses. Alfred Stieda.
- 46 Two Cases of Aneurism of the Arteria Carotis Cerebri. A. V. Zur-Mühlen.
- 47 On the Pathological Anatomy of Deafmutism. Dr. Schwabach.
- 48 *Recent Theories on Sound Conduction. Dr. Treitel.
- 49 Report on the Progress of Otolaryngology During the First Quarter of the Year 1903. Arthur Hartmann.

43. Arrosion of Brain Sinuses.—Eulenstein reports a case of mastoiditis following scarlet fever in which, in spite of early paracentesis, decay of the bone continued. The infection entered the cranial cavity, producing epidural abscess and corroding ulcer of the sigmoid sinus, perforation of which led to profuse and repeated hemorrhage. Direct plugging of the sinus was not sufficient, and he therefore shut off the blood current from below by tying the internal jugular vein, exposing the lateral sinus above its knee, and kept it compressed with the finger during the operation. He thinks he would recommend this method in other cases, not only to control the bleeding sufficiently, but also to control the primary affection thoroughly. He reviews the cases from the literature—18 in all, including his own.

45. Cheesy Empyema of the Nasal Accessory Sinuses.—Three cases are reported by Stieda in which large masses of cheesy material were removed from the nose. In one case there was almost a pure culture of bacillus coli in the mass; in others it was mainly amorphous material. He thinks that the other typical cases that have been reported in the literature, as well as his own, give evidence of the destructive nature of the caseous formation in these sinuses, and show that the process can be cured by drainage and thorough cleanliness.

48. Sound Conduction.—The criticisms of the Helmholtz theory of sound conduction are reviewed and passed on by Treitel, who discusses the literature. He thinks the attempts that have been made to overthrow this theory have not been altogether failures. The proofs as regards the method of resonance of sound waves are still unsatisfactory, and the very careful studies of Kleinschmidt and Zimmermann show that the resonance theory of the drum membrane of Helmholtz has become untenable. Moreover, from physical and physiologic facts, molecule vibrations must be admitted as

possible. If the molecular theory is correct, the middle ear mechanism is not absolutely necessary for sound conduction, but only for dampening loud sounds. The views are diverging also as to how the sound waves excite the fibers of the basilar membrane. It appears that this can be done by bone conduction alone, as in the case of loss of drum membrane and fixation of the stapes. He is in no doubt as to the value of Rinne's test in the diagnosis of ear diseases. Further research is still required to settle the questions that have been raised.

American Journal of Obstetrics, New York.
October.

- 50 *The Abdominal and Pelvic Lymphatics and Their Relationship to Cancer of the Uterus. W. Francis B. Wakefield.
- 51 *Conservative Surgery of the Female Pelvic Organs. Richard C. Norris.
- 52 Personal Experience with Alexander's Operation for Retroversion of the Uterus. H. Meek.
- 53 *Some Remarks on Retrodeviations of the Uterus. A. P. Stoner.
- 54 Repeated Cesarean Section on the Same Individual, with Report of Two Cases. George Haven and Ernest B. Young.
- 55 The Work of Downes' Electrothermic Angiotribe (Hysterectomies, Salpingo-Oophorectomies, Carcinoma Mammæ, Epithelioma and Hemorrhoids). E. Gustav Zinke.
- 56 The Urinary Secretion: Its Obstetrical and Gynecological Considerations. Chauncey D. Palmer.
- 57 *The Mechanism of Occipito-posterior Positions; Does the Occiput Rotate Above or Below the Spine of the Ischium? Walter B. Gossett.
- 58 Gynecological Cases. W. E. Reed and E. K. Palne.

50. Abdominal and Pelvic Lymphatics.—Wakefield describes the anatomic structures and importance of these nodes in cases of malignant disorder. He insists on the importance of their thorough removal in cervical cancer, and sums up his general statements as follows: 1. The desiderata, in the order of importance, are: Removal of the uterus, removal of the parametric connective tissue, removal of the upper part of the vagina and removal of the regional lymphatics. Vaginal hysterectomy has no place as a curative operation in cancer of the cervix, and may be only palliative. The abdominal route, which should include the combined abdominal and vaginal, is the only one sufficiently radical to obtain the results that permit hopes of permanent results. He does not think any operation worthy of consideration that does not succeed in accomplishing at least the first three of these above-mentioned desiderata. The fourth will gradually grow out of the performance of the other three. The technical difficulties will, of course, be surmounted only by the experienced surgeon, and will not be popular even with him until with prolonged practice he has reduced the operation to a reasonable time limit and cut down the mortality rate. That operation will survive which permits the accomplishment of all the desiderata above mentioned with the least injury to the peritoneal structures, and at the same time affords the greatest protection to the ureter and important vessels.

51. Conservative Gynecologic Surgery.—While the results in Norris' total series of cases of surgery of the female pelvic organs are somewhat discouraging, generally speaking, and sometimes difficult to understand, very fortunate results have followed when he has carried conservative efforts to the extreme in some cases. No surgeon can predict the outcome. Future fertility depends more on the condition of the tube and success in restoring its caliber and integrity than on successful plastic work on the ovary. This latter rarely accomplishes the chief desire of the patient, namely, the relief from pain, and the patient who desires to be still fertile must be told that the preservation of the ovarian function may entail some condition of pain, often lessened, but still existing. Follicular cystic degeneration is very prone to be progressive. The age of the patient may help in deciding the case. A woman of 40 or more years of age, if she has children, should rarely be subjected to the risk of a second operation. The nervous temperament, recuperative powers, etc., have their influence. Women of strong nervous force and vigor, indifferent to pain, are the most favorable for successful conservative work.

53. Retrodeviations of the Uterus.—Stoner finds the shortening of the uterine sacral ligaments one of the most important measures in treating these cases. The following operation has been found by him so far satisfactory:

After freeing all adhesions and completing the necessary toilet of the adnexa, the uterus is brought strongly forward by the aid of a tenaculum forceps inserted in the fundus. This maneuver brings the uterosacral ligaments into prominence and each is transfixed, 5 or 6 cm. from its attachment to the uterus, with a needle carrying a medium fine silk ligature. Midway between the sutures and the uterus the ligaments are again pierced with a suture. After slightly relinquishing the hold on the tenaculum, traction is made on the sutures. The first or higher one is drawn downward toward the uterine attachment and anchored close to its origin to the uterus. The lower one is drawn upward toward the sacro-iliac junction and attached to its fellow. Thus the ligament is folded on itself as in Mann's operation on the round ligament. A 1-500 solution of bichlorid of mercury should be applied to the edges of the folds to destroy the epithelium and cause adhesion; but care should be taken to wipe dry any excess of the solution. The ligaments must be shortened only enough to place the cervix in an easy elevated position. To aid in folding the ligaments, hemostatic forceps may be used to advantage for grasping the traction suture close to the ligament. The operation is completed by whipping together the folds with fine catgut. The operation of itself is sufficient to hold the organ securely. However, as a matter of precaution, the round ligament should be shortened by one of the standard methods. No operation for the cure of this affection is complete, however, without due attention to all complications, such as damaged pelvic floor, lacerations of the uterus, endometritis, etc. Shortening the utero-sacral ligaments I believe to be an ideal method for the cure of retrodisplacement. The operation is simple and is usually easily accomplished. It is productive of no danger of bowel obstruction or pregnancy disorders, two very important points to consider in making up one's mind as to the best operative procedure.

57. Occipito-Posterior Positions.—Gossett holds that the occiput can not rotate forward after it passes posterior to the spine of the ischium. As the head descends in the R. O. P. position by the force of the uterine contraction it is first flexed to allow the head to enter the brim, substituting the sub-occipito-bregmatic diameter of the head for the occipito-frontal. The force of uterine contraction is transmitted through the vertebral column to the short pole of the fetal head, the occiput, producing more flexion. The head descends and the occiput, being the most dependent part, meets the resistance of the pyriformis muscle and soft parts which starts its rotation to the front, it rotating away from the point of resistance to that part of the pelvis where it has the least resistance, that is, to the right and forward. This is the beginning of the second step of labor in the R. O. P. position with a favorable termination, that is, the rotation of the occiput through three-eighths of a circle to the front. If the resistance of the pyriformis muscle and soft parts is not sufficient to start the rotation of the occiput to the front, then it will pass on down and fall behind the ischial spine and onto the right posterior inclined plane, following its direction, which is downward and inward to the hollow of the sacrum.

Annals of Surgery, Philadelphia.
October.

- 59 *A Case of Malignant Edema. Alfred H. Gould.
- 60 *Fatal Hemorrhage from Trephining. Joseph Ransohoff and A. V. Phelps.
- 61 *Notes on a Case of Fusiform Aneurism Treated by Matas' Method. Robert T. Morris.
- 62 On an Aggravated Case of Aneurism Racemosum. Carl Beck.
- 63 The Treatment of Aneurism of the External Iliac Artery by Digital Compression. Francis J. Shepherd.
- 64 *Calculus Anuria; Its Diagnosis and Treatment. Arthur T. Cabot.
- 65 *A New Method of Performing Perineal Section Without a Guide. Charles L. Gibson.
- 66 *A Clinical Contribution to the Knowledge of Tubercular Diseases of the Female Urinary Tract. Edward J. Hill.
- 67 *Contribution to the Surgery of Pyosalpinx. R. C. Coffey.
- 68 Congenital Luxation of the Ankle. Albert H. Frelberg.
- 69 Treatment of Complications Attendant on Chronic Gallstone Disease. John B. Deaver.
- 70 Tropical Abscess of the Liver. Ernest F. Robinson.
- 71 *Intestinal Localization. George H. Monks.
- 72 A Further Case of "Hour-glass" Stomach. John M. Elder.

59. Malignant Edema.—Malignant edema produced otherwise than by the Welch bacillus is rare. Gould has found only 5 cases in the medical literature, not one in the English language, and therefore the case he reports he thinks is of interest. There are 3 cases that are reported in addition to the 5 mentioned, but he considers the bacteriologic evidence insufficient. He describes the bacteriologic findings and the culture results.

60. Hemorrhage from Trephining.—The case of Ransohoff and Phelps was one of almost inevitable fatal hemorrhage. In using the electric fraise for the osteoplastic operation the bleeding from the bony canals was so excessive that the patient died on the table. The diploic canals were greatly enlarged, and whether another method would have had better

results is questionable. Posture of the head and compression of the carotids were without avail.

61. **Aneurism Treated by the Matas Method.**—Morris reports a case of fusiform aneurism in the popliteal region which was operated on by the Matas method of opening up and clearing out the clot and making a new arterial channel for the blood, with excellent results. As soon as the sutures were completed and the elastic bandage removed pulsation appeared and there was no leakage; the paralysis of sensation and motion which had resulted from the presence of the aneurism began to disappear. Sensation was well defined over the right leg and foot by the seventh day. On the twenty-second day there was still a little paralysis of motion in the anterior tibial region. The restoration of function is satisfactory.

64. **Calculus Anuria.**—Two cases are reported by Cabot. In the first the calculus was dislodged and forced on to the bladder by massage applied through the abdominal wall. He recommends this procedure as a frequent practice, though it should never lead to delay of operation during an uncertain period of diagnosis. In the second case the operation did not reveal a stone, but the subsequent history of the case showed that two small ones were washed out from the bladder with the Bigelow evacuator, and a large one crushed and pumped out under cocaine anesthesia. Recovery was uneventful. The stones were evidently forced into the bladder by manipulation of the ureter during the operation.

65. **Perineal Section.**—The method here described by Gibson consists in using a rectal speculum and pulling down the prostate with a tenaculum, traction being exerted downward and somewhat backward. When median perineal section is performed the forefinger is introduced into the wound and as an assistant gently tugs on the hook one readily receives the sensation of the intermittent tension of the urethra in response to the traction on the prostate, thus guiding further incision. The danger of infection from puncture of the prostate through the rectal wall he thinks is minimal. In none of his cases has there been any such bad result. He does not recommend this as a routine operation, but it should be reserved for cases where there are unusual difficulties, a feeble patient, especially one with diseased kidneys or other complications. In septic states due to urinary extravasation, the very slight risk of infection (which, if it occurs, can easily be attacked through the existing perineal incision) may wisely be taken in order to increase the patient's chances.

66. **Tuberculosis of the Female Urinary Tract.**—Fourteen cases are reported and tabulated by Ill and their interesting points commented on. In only one case did the disease seem to have started in the bladder. The resistance to the tubercle bacilli of this organ seems to be so great that it will sometimes throw off the disease itself, as is demonstrated in his second case. Resection of the secondarily diseased portion is not necessary. Even the ureter may sometimes recover spontaneously, as is shown by another of the cases. He does not, however, advise leaving an infected ureter. He holds that these cases show that bladder tuberculosis is usually propagated by contiguity instead of by the blood current. Other cases show the possibility of recovery after long periods of time, as well as the rapidly fatal termination in some instances.

67. **Pyosalpinx.**—Coffey has developed from his experience a technic as follows:

After the abdominal incision has been made, first see if it is possible to push the intestines upwards towards the diaphragm, and hold them by packing in gauze sponges; second, seek the fundus of the uterus. Having made way to the uterus, gradually insinuate the finger along the posterior surface until the cul-de-sac has been reached. Carry a gauze sponge down between the fingers and the uterus. From this point of cleavage separate adhesions from the center as much as possible, gradually filling the space made with the gauze sponges. As fast as possible separate adhesions of the intestines and push them back towards the diaphragm until they are well out of the way and a thick wall of gauze sponges separates the field of operation from the general abdominal cavity. Now gradually separate the adhesions, holding down the tubes, and lift the uterus as high as possible with vulsellum forceps. The first step in the actual operation is to excise the tube by a V-shaped incision in the cornu of the uterus. Follow this up with a continuous catgut suture until the V-shaped incision has been almost closed. Put down this needle and thread; lift the tube as high as possible; ligate the web or ligament of the

tube in three or four different sections with catgut, as close as is consistent. A certain amount of comparatively healthy and active ovarian tissue may be found at the base of almost every ovary, no matter how cystic. Remove all the cystic portion, making, if possible, a V-shaped incision, which is to be closed with a very fine suture. Now take up the needle and continuous catgut suture which has been used to close the V shaped uterine incision, pass the needle through the peritoneum just external to the line of stumps, then the side of the uterus, then through the peritoneum, back to the side of the uterus, and so until the peritoneum forming the web or ligament of the tube has been brought in contact with the side and back of the uterus. After this has been done, it is found that the raw stumps are hidden and in contact with the back and side of the uterus. The ovary is suspended by its normal ligament under a roof made of the peritoneum of the broad ligament, and is thus protected from contact with the intestines above. The other tube and ovary are treated likewise. Owing to the fact that very many of these cases tend to retroversion of the uterus, I have supplemented this part of the operation by what I have called for want of a better name, posterior advancement of the round ligament, which is done by seizing the round ligament an inch or an inch and a half from its uterine attachment and bringing a knuckle backward to be stitched to the posterior and lateral surfaces of the uterus and broad ligament by a line of catgut sutures. This holds the uterus in its normal position. In the great majority of cases every raw surface may be covered up by this method. If there should be infection of the ovary or in the stump following the operation, there is but one place for an accumulation to take place, namely, in the cul-de-sac, where it will do the least possible damage and be most easily reached.

He holds drainage unnecessary except in acute cases, as the pus is generally sterile and when required it is better to drain through the cul-de-sac. He usually employs the compound drain of rubber tube and gauze as being the most satisfactory. The advantages of his method he sums up as follows:

1. Small mortality.
2. The covering of every raw surface with peritoneum as far as possible, and directed so that drainage will be into the cul-de-sac.
3. Future complications and adhesions are almost altogether prevented by excising the tube from the cornu by a V-shaped incision, suturing the incision with catgut and bringing the peritoneum of the broad ligament and the stumps in contact with the uterine body. This turns the ovary and raw surfaces into the cul-de-sac, sheltered by overlying peritoneum, and all broken areas are brought into the cul-de-sac within easy reach in case of infection of either the uterus or remaining ovarian tissue.
4. Owing to the tendency of the uterus to be drawn backward by adhesions, the posterior advancement of the round and broad ligament serves a valuable purpose.
5. No vessel is tied which under ordinary circumstances could cause fatal hemorrhage, even though all ligatures slip.
6. All the normal womanly functions can be kept up except childbearing in almost every case.

He believes the method a useful one in conservative surgery. The article is profusely illustrated.

71. **Intestinal Localization.**—Monks has studied on the cadaver the characteristics of the intestine at various distances from the duodenum, and gives his results. He utilized for differentiation the root of the mesentery, which springs from the posterior wall of the abdomen along a straight line six inches in length, starting above on the left side of the spinal column where the duodenum ends, and about on a level with the body of the second lumbar vertebra, continued obliquely downward and to the right, to end in a somewhat indefinite way at a point opposite the sacro-iliac synchondrosis. The circulation in this mesentery is one of the valuable points in the localization of the intestine. The arrangement of the main branches of the superior mesenteric artery is in primary and secondary loops; the former predominating and being more marked in the upper end, and the circulation becoming more complicated as we descend. There seems to be no fixed rule as to the length of the intestine. Age and sex have little to do with it. Where the intestine is very long he has sometimes found the mesentery also of unusual length, and the little straight vessels running from the mesenteric loops to the intestines much longer than the average. Where it is short he has also observed in a few cases that the mesentery and vasa recta were also short. The diameter of the gut is the greatest above, and gradually diminishes in size as we go down the tube. In the lower third or so the size remains the same throughout. The thickness is greatest in the upper part on account of the large and numerous valvulae conniventes and the greater development of the muscle layers. It gradually gets thinner until within two or three feet of the cecum, where it thickens again. This thickening is presumably due to an increase in the muscular elements. The upper part is normally bright pink or red, showing numerous vessels. As we go down the tube the color changes to a gray or pinkish or yellowish gray and the vascularity is less marked. The valvulae conniventes diminish in number as we go down, and about fourteen or fifteen feet from the end of the duodenum they

seem to disappear, and below this can seldom be seen or felt. The various parts of the intestine show foods in various stages of intestinal digestion. The consistency increases somewhat towards the lower end. It is hardly necessary to suggest that when one end of the loop, which is high up in the bowel, is gently pulled on and meets with resistance the loop is probably close to the duodenum, and likewise when one low down in the bowel meets with resistance the loop is probably a short distance from the ileocecal valve. The mesentery varies in thickness in the different parts. The thinnest part of the mesentery is that portion which is adjacent to the upper part of the intestine, and it becomes thicker as we go down the tube, largely owing to the deposition of fat. Its translucency varies immensely. Tabs of fat near the mesenteric border of the intestine are another guide, increasing toward the lower region. The direction of the stretched mesentery may also be a guide. Knowing the direction of the line of resistance, we get an approximate idea as to the part of the mesenteric root which resists; we can generally tell whether it is to the left or right. The more it inclines to the left from below upward, the nearer is the loop to the duodenum, and vice versa. These conclusions which he reaches are only approximate ones. He gives a fair average showing that he was within three feet of the true localization in about 75 per cent. of his estimations, and that the average was not out more than 2 feet.

Journal of Tuberculosis, Asheville, N. C.

October.

- 73 The Floating Sanatorium for Pulmonary Tuberculosis. Franz Michael and Hermann Maurer.
- 74 The Very Earliest Manifestations of Pulmonary Tuberculosis. J. H. Tyndale.
- 75 The Civil Aspect of the Tuberculosis Problem. Arthur J. Richey.
- 76 The True Therapeutic Action of Ichthyol in Pulmonary Tuberculosis. James Burnet.

Carolina Medical Journal, Charlotte.

October.

- 77 *Intubation. J. W. Long.
- 78 Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
- 79 Some Mistakes of a Country Doctor.

77. Intubation.—Long describes his methods of intubation, insisting on the importance of frequent practice on the cadaver before attempting it on a living person. He mentions one little point of invaluable assistance to him. As soon as it is felt that the end of the tube has entered the larynx pass the finger quickly into the esophagus. If the tube is properly engaged the posterior laryngeal tissue will be felt between the tube and the finger, and we know that the tube is not getting into the esophagus. With this assurance push the tube gently home, following it as one would an urethral sound, for here, as in the urethra, there is danger of making a false passage or other injury. This precaution of feeling the posterior wall of the larynx is not, he thinks, mentioned in any text-book, but it is of special value, for, if observed, many of the difficulties of intubation would disappear. He thinks it would be better to remove the string as soon as it is seen that the larynx tolerates the tube. Feeding the patient is sometimes difficult at first. The child can swallow better lying down or even with the head hanging low. Sometimes forced feeding with the tube will be required. Extubation is in some respects more difficult. Some operators leave the string, others use external pressure to push the tube out. He remarks that one of the physicians of a hospital in Philadelphia told him that he considered it favorable when the tube was coughed up as it avoided the trauma of extubation. As regards retained tubes he thinks the average time can be estimated in days rather than in months. Fortunately the necessity of keeping it in longer than the normal period is rare. A number of cases are reported, and the results were 11 lives saved out of 13, or a mortality of only 15.33 per cent., which can be greatly improved on. In fact, a 5 per cent. mortality may be safely taken as the average.

Journal of Comparative Neurology, Granville, Ohio.

October.

- 80 The Neurofibrillar Structures in the Ganglia of the Leech and Crayfish, with Especial Reference to the Neurone Theory. C. W. Prentiss.

- 81 On the Increase in the Number of Medullated Nerve Fibers in the Ventral Roots of the Spinal Nerves of the Growing White Rat. Shinkishi Itai.
- 82 On the Medullated Nerve Fibers Crossing the Site of Lesions in the Brain of the White Rat. S. Walter Ranson.
- 83 *On the Density of the Cutaneous Innervation in Man. Charles E. Ingert.
- 84 On the Law Determining the Number of Medullated Nerve Fibers Innervating the Thigh, Shank and Foot of the Frog—*Rana viracens*. Henry H. Donaldson.

83. Cutaneous Innervation in Man.—From his studies of the nerve fibers in the anterior roots and estimates based on others' work, Ingbert concludes that about 79 per cent. of the medullated nerve fibers in the dorsal roots of both sides, or 1,032,730 fibers, go to innervate the dermal surface, and about 21 per cent., or 274,521, are afferent fibers distributed to the muscles and deep tissues. The afferent fibers of spinal ganglion origin passing in the *rami communicantes* are not separately considered here, but are classed with those passing to the skin. According to his estimate (using the skin areas for a large man), one cutaneous nerve fiber in the dorsal spinal roots innervates, on the average, 1.08 sq. mm. of the skin of the head and neck and 3.15 of the skin of the trunk. For each additional class of nerve fibers assumed we must increase the area proportionately. If we assume, with Foster, four classes of cutaneous nerve fibers, then each fiber will have to innervate on the average 4.32 sq. mm. of the dermal surface of the head and neck, and 12.6 of the dermal surface of the trunk. If there are four classes of afferent nerve fibers in the dorsal roots, then a histologic examination of the nerve terminations in the skin ought to show each cutaneous nerve fiber to innervate average areas as large as those given above. He attaches a bibliography.

Medical Examiner and Practitioner, New York.

October.

- 85 Shall We Eliminate Cancer and Consumption from Family History in Our Application Blanks? E. Holovitchner.
- 86 A Study on Light. J. Mount Meyer.
- 87 Diagnosis and Prognosis of Erysipelas and Erysipeloid Conditions: Their Causes and Treatment. Thomas H. Manley.
- 88 Suggestions in the Treatment of Diseases of the Respiratory Tract. J. F. T. Jenkins.
- 89 Health Insurance. J. L. Hatch.

Texas Medical News, Austin.

October.

- 90 The Value of Modern Aids to Diagnosis of Diseases of the Stomach. J. W. McLaughlin.
- 91 *Intraspinal Injection of Antitetanic Serum in Tetanus. A. Garwood.
- 92 Women in Medicine. Harriett Williams.
- 93 Epidemics. William E. Drisdale.
- 94 Report of a Case of Malignant Senile Gangrene Cured by Topical Application of Intense Dry Hot Air. E. L. Morse.
- 95 Treatment of Septicemia by Intense Heat. R. W. Carter.

91. Subarachnoid Injection of Tetanus Antitoxin.—Garwood reports the first case in his practice of recovery from tetanus, and the only case treated by him by this method. Eleven injections of 10 c.c. antitoxin were made in thirteen days, withdrawing a total of 14 ounces of the cerebrospinal fluid in the 11 injections. No improvement was noted until after the third daily intraspinal injection.

American Practitioner and News, Louisville.

September 1.

- 96 Surgical Aspects of Tuberculosis. A. David Willmoth.
- 97 Setonage in Empyema. John S. Hoskins.
- 98 Medical Aspects of Tuberculosis. S. N. Willis.
- 99 The Roentgen Rays in Tuberculosis. M. F. Coomes.

St. Paul Medical Journal.

November.

- 100 The Celestial Family of Olympus; Its Physicians and Some of Their Most Notable Lineal Descendants. T. G. Stephens.
- 101 Raynaud's Disease, with Report of Two Cases. G. A. Newman.
- 102 Surgery of the Gall Bladder. J. T. Rogers.
- 103 Colonization of Defectives. A. C. Rogers.
- 104 Some General Thoughts in Relation to the Practice of Medicine. Emery H. Bayley.

Toledo Medical and Surgical Reporter.

November.

- 105 Some Facts Concerning Immunity and the Antitoxins. H. E. Smead.
- 106 Ehrlich's Side-chain Theory of Immunity. A. L. Steinfeld.
- 107 Rupture of the Uterus. Alfred F. McVety.
- 108 Potassium as Compared with Sodium and Strontium Salts. Charles Louy.
- 109 Interstitial Nephritis. Theodore Zbinden.

American Medical Compend, Toledo.

November.

- 110 Obscure Neuroses and Their Treatment. Brose S. Horne.
 111 Treatment of Comedones (Acne Punctata). R. C. Longfellow.
 Articles 105, 106, 107 and 109 above also appeared in this Journal.

Mississippi Medical Record, Vicksburg.

November.

- 112 Shock as a Factor in Determining the Time to Operate After Receipt of Injury. F. P. Boatner.
 113 A Peculiar Case of Complete Loss of Memory for Twenty Hours. J. A. Tabor.

Journal of the Kansas Medical Society, Topeka.

November.

- 114 Infectious Diseases and Quarantine. (To be continued.) Arthur W. Clark.
 115 The Doctor, the Nurse and the Training School: Their Relations and Interwoven Responsibilities. B. D. Eastman.

Medical Herald, St. Joseph, Mo.

November.

- 116 Cysts of Ligamentum Latum—Para-oviducts—Mesonephritic Malformations. Byron Robinson.
 117 The Diagnosis of Obscure Bladder Conditions. E. G. Mark.
 118 Some Personal Observations on the Treatment of Typhoid Fever. J. D. Brummall.
 119 Brief Observations on Some Conditions in Women that Are of Much Concern to the Practitioner. J. Ridgely Simms.

Maryland Medical Journal, Baltimore.

November.

- 120 *The Dwarf Tapeworm (Hymenolepis nana), a Newly Recognized and Probably Rather Common American Parasite. Ch. Wardell Stiles.
 120.—See also ¶1 above.

Journal of Advanced Therapeutics, New York.

November.

- 121 Some Principles on Which Is Based the Therapeutics of Electricity in Nervous Diseases. A. D. Rockwell.
 122 *Address, American Electrotherapeutic Association. Daniel R. Brower.
 123. *Radium, with a Preliminary Note on Radium Rays in the Treatment of Cancer. Margaret A. Cleaves.
 124 Selective Harmonic Electric Vibration: a New Physical Therapeutic Agent. Morris W. Brinkmann.
 125 The Roentgen Ray as an Aid in Diagnosis. (Continued.) Herman Grad.

122.—See abstract in THE JOURNAL of October 17, p. 977.

123.—Ibid., p. 978.

Canadian Journal of Medicine and Surgery, Toronto.

November.

- 126 *Address on Medical Science. Charles S. Sherrington.
 127 The Master word in Medicine. William Osler.
 128 The Medical Treatment of Diseases of the Nose and Throat. John Hunter.

126.—This article appeared elsewhere. See THE JOURNAL of November 14, title 107, p. 1233.

St. Louis Courier of Medicine.

October.

- 129 Cases Illustrating the Course and Treatment of the Fecal Fistula which Complicate Appendicitis. Willard Bartlett.
 130 Tubal Pregnancy. Report of a Case of Early Rupture. F. G. Deltose.
 130½ Malaria. A Review of Some Recent Literature. (Concluded.) John Zahorsky.

Southern Practitioner, Nashville, Tenn.

November.

- 131 The General Practitioner's Relation to Insanity. A. E. Douglas.

Medical Bulletin, Philadelphia.

November.

- 132 Ophthalmia Neonatorum. L. Webster Fox.
 133 *The Dietetic Treatment of Chronic Nephritis. J. M. Anders.
 134 Disorders of Sleep. F. Savary Pearce.
 135 A Clinical Study of Organic Iron. John V. Shoemaker.
 136 The Treatment of Exophthalmic Goiter. Charles W. McIntire.

133.—This article appeared elsewhere. See THE JOURNAL, November 14, title 1, p. 1227.

Mobile Medical and Surgical Journal.

October.

- 137 Variola. W. D. Travis.
 138 A Weak Solution of Cocain for Local Anesthesia. S. W. Pryor.

Pacific Medical Journal, San Francisco.

October.

- 139 Post-operative or Incisional Abdominal Hernia. Winslow Anderson.
 140 Rodent Ulcer. H. D'Arcy Power.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 31.

- 1 Position of Laryngology and Otology in the Medical Student's Curriculum. Patrick W. Williams.
- 2 *Discussion on the Operative Treatment of Malignant Diseases of the Larynx. Felix Semon, Themistokles Gluck and others.
- 3 Two Cases of Epithelioma of the Larynx Remaining Well Two Years After Operation (Thyrotomy). Eugene S. Youge.
- 4 *Discussion on the Technic of Operations on the Temporal Bone in Suppurative Middle-ear Disease. P. McBride and others.
- 5 *On the Local Use of Formalin in the Treatment of Nasal Polyp before and After Operation on the Same by the Usual Methods. Adolph Brönnner.
- 6 Illustrations of the Effects Produced by the Singing Voice in a Suitable Medium. Arthur G. Haydon.
- 7 *A Discussion on the Upper Respiratory Tract as a Source of Systemic Infection. F. Bellavilland Hall and others.
- 8 Difficulties and Insufficiency of the Stenosal Theory of Adenoid Deafness. David McKeown.
- 9 *The Surgical Treatment of Cancer of the Larynx. E. J. Moure.

2. Malignant Disease of the Larynx.—Semon thinks the intralaryngeal operation does not offer the least guarantee that a due amount of healthy tissue is removed. Thyrotomy is preferable if performed in the early stages of intrinsic malignant disease. It should be thorough and no sentimental considerations must interfere. Experience has shown him that often in cases of extensive disease without removal of the growth and soft parts around it subsequent energetic scraping of the base is sufficient to prevent recurrence. It is only when the cartilage is invaded that its removal is required. As regards total extirpation of the larynx he corrects the impression which has prevailed that he was an opponent of this operation; he advocates it when it is indicated. Subhyoid pharyngotomy is suitable for cases where the disease starts from the epiglottis or from the aryteno-epiglottidean fold. The technic is easy, but there has been a curious fatality in this operation. Palliative tracheotomy ought only to come into question when the disease has started in a locality where nothing short of total extirpation of the larynx could come into play and the patient declines that operation, or when the disease, starting in a better locality for the milder procedures, has not been recognized early enough to allow them to be employed or when serious complications forbid their employment. If it has to be performed it should be done as low down as possible. In conclusion he remarks in regard to the possibility of a reliable diagnosis and points out the difficulties.

Gluck followed Semon in the discussion and described his own methods. For diffuse papilloma, some cases of syphilis and circumscribed cancer of the vocal cords, he would make a low tracheotomy, expose the larynx through a median incision, divide the thyroid cartilage and the crico-thyroid in the median line and retract the halves. Then remove the growth with the scissors, knife, or thermocautery under cocain, putting in plugs of iodoform gauze and suturing to the cartilage. These can be removed in four or six days under anesthesia. If necessary the suspected region is cauterized and the wound stitched up. About the tenth day the sutures are removed and also the tracheal cannula. The third week healing is complete. His results have been excellent with this method. In cancer of the larynx and with tumors of the tongue and pharynx he has escaped the source of danger of inspiration pneumonia by resecting the trachea and stitching the distal cut end of that tube to a buttonhole in the skin, thus preventing the possibilities of foreign bodies reaching the lungs. Gluck also describes his method of hemilaryngectomy and total laryngectomy and extirpation of the larynx or pharynx, or both, reporting cases. His remarks are amply illustrated. His most recent results show a series of 22 complete laryngectomies with 1 death; that in a feeble old man. Of partial extirpations of the larynx and pharynx, generally combined with removal of infected glands, he has a series of 27 cases with only 1 death. In this the carotid had been tied and the death occurred from hemiplegia five days later. His principles are, first save and prolong the life of your patient and do not worry about the postoperative state. Restitution of function will be a secondary care.

4. **Suppurative Middle-Ear Disease.**—McBride's paper is chiefly historical as regards mastoid operation and intracranial suppuration. He reports illustrative cases.

5. **Nasal Polypi.**—Bronner, in case of nasal polypi, removes as much of the growth or diseased mucous membrane as he can with the cold snare and then applies formalin on a probe to the roots. He tries not to cut through the pedunculated polypi, but to pull them out by the roots. In this way he often succeeds in removing the whole, and in many cases part also of the underlying diseased bone. Before using formalin he again applies a powder consisting of equal parts of cocaine, eucain and desiccated suprarenal extract to the parts. After a few days a formalin spray of 1 to 500 up to 1 to 100 is ordered to be used three times a day for a week or two and then less frequently. If this is painful he orders a parocaine spray to be used. Formalin is a powerful disinfectant, but also causes contraction and hardening of the diseased tissues. He also uses insufflations of tannoforn, aristol and boric acid. As long as there is much discharge an alkaline spray should be used. The middle turbinate is often extensively diseased. He removes the anterior part by the forceps or snare. A careful examination of the nares and the reduction of the swelling by a local application of cocaine and desiccated suprarenal extract enable a correct diagnosis to be made. This is his method in all cases of polypi. He is inclined to think that nasal polypus is most often an extension from disease of the accessory sinuses.

7. See abstract in THE JOURNAL of September 12, p. 679.

9. **Cancer of the Larynx.**—In extrinsic cancer with the disease still very limited it may be removed, Moure says, with the snare or cutting forceps under cocaine and adrenalin. When it is situated further down, involving the epiglottis, base of the tongue and perhaps even the glosso-epiglottic folds, an external operation is required. For this he prefers trans-hyoid pharyngotomy, as recommended by Gussenbauer and revived by Vallas. The operation is easy. He opens from just behind the chin, backward to that point of the trachea where the cannula is to be introduced, dividing the tissues layer by layer in the middle line; also the hyoid bone if necessary. By drawing the two halves apart the epiglottis is easily exposed, and it is then drawn forward in the wound and removed. An energetic application of the curette and the thermocautery completes the operation. The two halves of the tongue are then sutured with catgut, the parts of the hyoid bone are held together by stitching the muscles above it and below, and finally, the skin is stitched with horsehair. He thinks it better to leave the tracheotomy tube in for some days, but it is not necessary to feed the patient through a tube. His patients have experienced no trouble in swallowing. The operation is an ideal one, as it gives access for the removal of infected glands, though it will not, of course, prevent recurrence. In intrinsic cancer thyrotomy is beneficial in cases of malignant growth originating in the interior of the larynx and especially of tumors of one or the other of the vocal cords. When one of the ventricular bands is affected and peripheral infiltration exists, or, still more, when the corresponding arytenoid cartilage is fixed, or there are signs of perichondrial disease, this method is unsuitable and should be rejected. He describes his methods at length. When the tumor has extended beyond the limits described, a partial or complete laryngectomy will be required.

The Lancet, London.

October 31.

- 10 *The Mental Diseases of the Climacteric. George H. Savage.
- 11 *Carcinoma of the Colon. William J. Walsham.
- 12 Abstracts of the Harben Lectures. Ferdinand Hueppe.
- 13 Large Bile Cyst of the Liver; Jaundice Without Cholelithiasis; Incision and Drainage; Recovery. Alban H. C. Doran.
- 14 The Great Importance from the Point of View of Medical Science of the Proof that Bacteria and Their Allies are Capable of Arising de novo. H. Charlton Bastian.
- 15 The Treatment of Pulmonary Tuberculosis by High-frequency Currents (Low Potential) and Intralaryngeal Injections of Antiseptics. J. Cunningham Bowle.
- 16 Some Cases of Dilatation of the Bronchial Tubes After Measles. Theodore Fisher.
- 17 Four Cases in which a Cystic Ovarian Tumor, which Was Not Malignant, Developed After a Similar Growth of the Ovary on the Same Side Had Been Removed. John D. Malcolm.

- 18 *An Adjunct to Uterine Irrigation in Puerperal Fever. David Watson.
- 19 A Case of Cutaneous Neurofibromatosis in which Newly Formed Nerve Fibers Were Found in the Tumors. Arthur Whitfield.

10. **Climacteric Insanity.**—The mental disturbances of the climacteric period are largely dependent on the neurotic predisposition, and are more frequent in single women and widows than in married women. The number of women who take to alcohol at this period is remarkable. There is a feeling of languor and inability to do what they want, and the taking of a little "pick me up" develops into a habit. Drug habits also develop about this time. In many cases the natural symptoms develop into delusions, self-consciousness is increased, and there is morbidity with impulsive and passionate acts or even suicide or homicide. A neurotic excitability is often noted and such conditions as kleptomania, hysterical developments, a tendency to lying accusations. Most of the cases are of the depressed type, with ideas of persecution, watching, etc. A late pregnancy occurring about or near the menopause is sometimes the cause of the mental trouble. Next to melancholia, the delusional characteristic is probably the most frequent. Ordinarily, one might say that if a patient did not get well in a year the chances are unfavorable, but with climacteric insanity it is impossible to give a definite prognosis as to recovery or the permanency of the disease. Probably there will be no improvement. If dementia appears it will become more pronounced, but there are occasional cases of remarkable late recoveries from this form of disorder.

11. **Carcinoma of the Colon.**—The points that Walsham emphasizes in this article are that columnar-celled sarcomas are the most benign forms of cancer that exist. At first the growth is localized to the bowel and has not affected the lymphatics, and if taken early enough the patient may be cured or the life prolonged a number of years. He has had cases where there has been no recurrence for about eight years. The symptoms are indefinite abdominal disturbances, uneasiness after eating, flatulency, a history of constipation with eructations, nearly always liquid stools, slowly progressing loss of weight and an almost constant desire to defecate. The rectum should be examined first, and this procedure may reveal the whole trouble. He would go thoroughly into the case, and says one should not assign the trouble to indigestion, but should watch and weigh the patient from week to week. If there is no improvement, examine the rectum and abdomen under an anesthetic, and if there is still no improvement make an exploratory incision, which will do no harm and may do a great deal of good. When an operation is to be performed the best plan is to do it in two stages: (1) Colotomy; (2) resection of the bowel and removal of the growth, uniting the ends of the bowel together with a Murphy button. After good union of the intestine close the colotomy wound and let the bowel resume its function. He advises against taking a wedge-shaped incision out of the mesentery, preferring to go along the edge of the mesentery and not to disturb the nutrient vessels.

18. **Puerperal Fever.**—An adjunct to uterine irrigation is described by Watson. After douching the uterus, express as much of the solution as possible, then inject into the cavity one ounce of glycerin containing 3 per cent. of formalin. This is quite innocuous and non-irritating and, in addition to its powerful antiseptic action, it removes all the water from the uterus. Its use prevents any rise of temperature following the douche which is sometimes observed under ordinary treatment. The whole procedure must be carried out with the strictest antiseptic precautions. Two cases are reported showing the results.

Journal of Tropical Medicine, London.

October 15.

- 20 *Note on the Use of Kerosene as a Cullicide. St. George Gray.
- 21 *Remarks on the Panama Canal and the Introduction of Yellow Fever into Asia. St. George Gray.
- 22 Notes on the Cullicide of Dehra Dun. F. Wyville Thomson.

23 Syphilitic Gummata Involving Both Knee Joints. William Robertson.

20. Kerosene as a Culicide.—Gray finds that kerosene is not an absolutely successful culicide for the adult anopheles. Only a small proportion were killed by it, and it did not prevent them from laying eggs, though it has excellent results in preventing the development of the larvæ. Crude petroleum is more viscid and more likely to be efficient.

21. Yellow Fever.—Gray mentions the possibilities of stegomyia developing on steamers and being carried by them. He does not think, however, basing his views on Guiteras' experiments, that yellow fever is transmitted from insects to their offspring.

Indian Medical Gazette, Calcutta.

October.

- 24 *Perineal Litholapaxy in Children. J. Garvie.
- 25 The Bhowanipore Food Poisoning. J. Nield Cook.
- 26 A Note on Some Cases of Poisoning by Scopolla Lurida—Atropaceæ. A. J. Macnab.
- 27 *A Generally Unknown Source of Enteric Fever. W. Beever.
- 28 Adrenalin and Its Uses in General Surgery, Especially Applied to Ophthalmology. Henry Gidney.

24. Perineal Litholapaxy in Children.—The indications for litholapaxy in adults and in children are the same, according to Garvie, who recommends the perineal method in young cases in preference to lithotomy. The only direction necessary to give, he says, to those unfamiliar with the operation is to measure the extent of one's incision in the deeper parts with a probe and, having satisfied oneself as to its sufficiency, to remove all instruments and gently insinuate the lithotrite. No force is required. There is no bruising or tearing of the tissues from crushing of the stone. The wound heals in about one week. He would ask the surgeon to use this operation frequently instead of the ordinary litholapaxy.

27. Enteric Fever.—Beever calls attention to the danger of acquiring enteric fever from baths, especially in India. Few people seem to be aware of this possibility. Water may enter the mouth or nose and in this way produce infection. He advises the careful avoidance of any inhalation or swallowing of the water in the bath and careful washing of the teeth and gargling of the throat afterward, using a strong antiseptic tooth powder, and plenty of it. These precautions apply to those who bathe in rivers or streams, especially soldiers in active service.

Bulletin de l'Académie de Médecine, Paris.

- 29 (LXVII, No. 33.) *Ancestral Dwarf Growth. A. Poncet and R. Leriche.—Nains d'aujourd'hui et nains d'autrefois. Nanisme ancestral. Achondroplasie ethnique.
- 30 *Sleeping Sickness. R. Blanchard.—Présentation de 3 nègres du Congo, atteints de la maladie du sommeil.

29. Dwarf Growth To-day and in the Past.—Poncet presents arguments to prove that the traditions of pygmies in the remote past related to the advance guard of the human race, who were diminutive in stature. Recent discoveries of skeletons of dwarfs in the prehistoric burying places, their numbers during ancient and medieval history and the few specimens known at the present day, all confirm the assumption that they belonged to a special race, numerous in the early days and gradually becoming extinct. Rome had battalions of dwarf gladiators, and as late as the tenth century dwarf races were known to people Switzerland, Alsace, etc. Nuesch and Kollmann maintain that they were the original inhabitants of Europe. Poncet has recently examined two dwarfs, brother and sister, both healthy and intelligent, whose father and grandfather had likewise been dwarfs. Radioscopy shows that the epiphysal cartilage must have become united to the shaft at the normal date, while in ordinary dwarfs this union does not take place and their achondroplasia is pathologic. In the ancestral pygmies the ossification proceeds normally, only the epiphysal cartilage is physiologically and relatively unproductive.

30. Sleeping Sickness.—Blanchard exhibited three negroes from the French Congo, and stated that Brumpt who had brought them had observed 38 cases. In 32 of these he had isolated a trypanosoma from the cerebrospinal fluid. He found a fly, the glossina, invariably present where there are cases of sleeping sickness, and thinks that it is probably the

obligatory intermediate host. The immunity of certain countries may be due to the absence of this glossina.

Presse Médicale, Paris.

- 31 (II, No. 83.) *Rôle des leucocytes dans l'assimilation et la répartition des médicaments dans l'organisme. M. Labbé.
- 32 The Omentum in Infections. L. G. Simon.—Rôle de l'épiploon au cours des infections générales.
- 33 Walking Apparatus. R. Sorel (Havre).—Méthode ambulatoire pour fractures.
- 34 (No. 84.) *La découverte pré-prostatique du bout postérieur de l'urètre dans l'urétrotomie externe sans conducteur. E. Forgue (Montpellier).
- 35 (No. 85.) *Usefulness of a Handle for Bowls, Dishes, Boxes, etc., Used in the Operating Room. F. Jayle.—De l'utilité d'un manche aux cuvettes et aux boîtes de pansements.
- 36 Report of French Congress of Surgery, Paris, October 19-24.
- 37 La dichotomie jugée par un chirurgien allemand.

31. Role of the Leucocytes in Absorption and Distribution of Medicinal Substances.—Labbé relates experiences which demonstrate that soluble substances are merely absorbed by the protoplasm of the phagocytes and chemical or physiological tests will reveal their presence. Insoluble substances are likewise taken up but undergo a transformation. Arsenic is broken into minute particles, transformed and rendered soluble. Calomel is split into metallic mercury and a bichlorid. This transformation occurs under the influence of the active ferments in the body of the leucocytes, the oxidases. When this transformation is complete the drug requires more complex tests to detect it, and the preliminary destruction of the albuminoid or nucleic molecule. The research described confirms the superiority of the subcutaneous route over ingestion by the mouth for certain drugs. The insoluble salts become soluble by the mediation of the leucocytes. This occurs slowly and progressively, which explains the tardy and prolonged effects of injection of the insoluble salts. The leucocytes are also attracted to the site of a morbid process and thus carry to it the drug injected, but we must not forget that the drugs themselves have more or less affinity for certain tissues, and display a marked localizing tendency, characteristic for each chemical substance, and which needs further study.

34. Opening Up Posterior End of Urethra Through Perineum.—Forgue has performed this operation by the technic described in 3 cases of impermeable fistula of the urethra, going at once to the vesical end of the urethra where it emerges from the beak of the prostate. This technic is advantageous both for impermeable stricture and for traumatic rupture of the urethra. Eight cuts show the various steps of the intervention, which commences like that of a perineal prostatectomy. When the prostate has been located the urethra is incised just below it, and a sound is introduced down to the stricture. The urethra can then be readily incised over this sound and another inserted from the external meatus as far as the stricture. The stricture tissue between the two sounds can then be readily excised.

35. Handles for Surgical Pans, Etc.—Jayle thinks that a handle would prevent the practice of putting the thumb on the inside of the edge in handling dishes.

Semaine Médicale, Paris.

- 38 (XXIII, No. 42.) *La néphrite toxique appendiculaire; albuminurie appendiculaire. Dieulafoy.
- 39 *Comparative Importance of Heart Disease as Cause of Dismissal from French and German Armies.—Sur l'importance comparée des maladies de coeur comme cause de réforme dans les armées française et allemande.
- 40 Letter from America. F. Munch.—Sur le climat des Etats-Unis.

38. Appendicitic Nephritis and Albuminuria.—Dieulafoy reveals another instance of the insidious treachery of the toxins generated in appendicitis by pointing out their action on the kidneys. The poison injures these organs surreptitiously, without calling attention to its work, and the only external evidence of it is albuminuria. Since he has been studying this phase of appendicitis he has found that every appendicitis of any severity has been accompanied by albuminuria, with or without casts. It appears the second or third day and may be accompanied by a subicteric complexion. The albumin may amount to as much as .25, .5 or 1 gm. or more; in several cases he has witnessed the gradual subsidence of the albuminuria after the appendix has been removed. In these

stomach, and be neurogenic or hematogenic. He advocates in treatment systematic evacuation of the stomach content with the stomach tube. In case of motor derangement he supplements this by lavage, raising the pelvis. An albumin and fat diet is kept up for several weeks—butter and oils, with small, frequent meals, rectal feeding and, if necessary, a course of treatment as for gastric ulcer. For medication he prefers alkalies, with silver nitrate if needed, bismuth and atropin if there are paroxysms. Gastroenterostomy is the last resort. He concludes his article with a study of the metabolism in cases of hypersecretion.

62. Subcutaneous Ruptures of Gastrointestinal Tract.—Sauerbruch has made an exhaustive study of the conditions that produce contusions, rupture and laceration of the stomach and intestines. Contusions of the intestine may not be perceptible from the aspect of the viscus alone. They are liable to be induced by contusion of the spine or pelvis, the intestine almost empty and the force applied to a circumscribed region. A predisposition to rupture is afforded when the intestines are full or the loop of intestine closed at both ends with contusion of the abdomen affecting the distended loop. Laceration from traction is liable when the force is applied obliquely from below upward at an angle to the spine. Also when the contusion or traction affects an intestinal loop immovably fastened by physiologic or morbid conditions. These three types of injury may be associated. Further predisposition is afforded by reflex rigidity of the abdominal wall, muscular tonus, the condition of the peritoneum, shape of the pelvis and condition of the abdominal organs at the time, as in pregnancy, affections of the intestinal walls, etc.

63. Tumors of Spinal Membrane.—Schultze diagnoses a tumor in the spinal membrane in cases presenting a permanent and gradually progressing motor and sensory paralysis, its limits above always persisting at or near the same point, even in the absence of pain of any kind. These symptoms differentiate a tumor of the spine outside of the spinal cord after exclusion of syphilis, myelitis and vertebral affections. It may be difficult to differentiate the condition from multiple sclerosis, which may develop with the clinical picture of a transverse myelitis, and also from chronic pachymeningitis and leptomenigitis, intramedullary tumor and vertebral caries. In locating the tumor it is important to note besides the pain on pressure, the zones of exaggerated or deficient sensation and symptoms of motor derangement. The reflexes, pains and paresthesia at remote points are less important for the differentiation. He reports 10 cases, in 9 of which his diagnosis of an extramedullary tumor was confirmed by the operation or necropsy. Three of the patients were permanently cured by surgical intervention and one permanently improved, while 3 died soon afterward. A tumor of this kind is usually a fibroma or fibrosarcoma when it develops slowly and symptoms are observed for years. There was no evidence of trauma in the etiology in his cases.

Münchener Med. Wochenschrift, Munich.

- 64 (L. No. 42.) *Mirror Register of Pulse. O. Frank (Munich).—Die Registrierung des Pulses durch einen Spiegel-Sphygmographen.
- 65 Smallpox in Strassburg. J. Baer.—Die Pockenerkrankungen in Strassburg i. E. im Sommer 1903.
- 66 Relations Between Blood Serum and Body Cells. K. Landsteiner.—Ueber Beziehungen zwischen dem Blutserum und den Körperzellen.
- 67 *Axial Torsion of Large Intestine During Childbirth. F. Fromme.—Ueber Achsendrehung des Dickdarms unter der Geburt.
- 68 Aspirin in der augenärztlichen Praxis (In ophthalmology). O. Neustätter.
- 69 Ry-Effects of Aspirin. Wlückelmann.—Aspirin-Nebenwirkung.
- 70 *Mixed Narcosis with Laughing Gas. Krönig (Jena).—Ueber Lachgasnarkosen.
- 71 *New Form of Splint. O. Vulpius.—Die Heidelberger Verbandsschleie, eine neue Schlenenvorrichtung.
- 72 Modified Burette as Tube for Centrifugallizing. C. Kellnerberger.—Eine modifizierte Burette als Zentrifugenröhrchen.
- 73 *Improved Electric Light for Examining. V. Pick.—Eine einfache Vorrichtung zur Verbesserung der elektrischen Untersuchungs-lampe.
- 74 The Lighting of Schools, etc. Report of Committee.—Die Beleuchtungsanlagen in den Erziehungs und Unterrichtsanstalten.

64. Mirror Sphygmograph.—Frank thinks that the weight of the parts of the sphygmographs in use prevents accurate meas-

urement of the actual pulse wave. To obviate this inconvenience he has devised an apparatus in which the movements of the lever applied to the artery are reflected on a mirror constantly turning on its axis. Light is focused on the mirror in such a way that it follows the movements of the sphygmograph lever, and these variations are mirrored on a sheet of sensitized kodak film, likewise revolving on a roller with the same velocity as the mirror. In this way the pulse curve is recorded without interference from the weight of the parts of the registering apparatus. He uses a Nernst incandescent lamp for the source of the light, focused by a lens. The entire apparatus is small and simple and does not require particular skill on the part of the user.

67. Axial Torsion of Large Intestine During Childbirth.—Fromme has observed a case of this kind and has found 2 others in the literature, all befalling healthy young women at the onset of parturition. Each case terminated fatally. None was diagnosed correctly.

70. Laughing-Gas Mixed Narcosis.—Krönig gives cuts of an apparatus he has devised for this method of narcosis. It is a combination of Bennet's inhaler with the Braun apparatus. He has used it in 500 narcoses and proclaims that it is entirely free from the inconveniences of the initial stages of the usual chloroform and ether narcosis. He applies the mask with only air passing through it, and this tranquilizes the patient. He then turns on the odorless, compressed laughing-gas and in 40 to 60 seconds the patient is unconscious; ether can be substituted for the gas without his knowledge, and the narcosis proceeds smoothly.

71. Vulpius' New Splints.—The splints are made of aluminum and consist of a row of cross strips, each provided with a ring on the outside through which a rod of aluminum is slipped to hold them all firm. He gives illustrations of the mode of application and extols their superiority over other splints.

73. Improved Electric Lamp for Examinations.—Pick coats the bulb of an ordinary 16 candle-power incandescent lamp with a layer of gypsum, leaving only a small space free on one side. This concentrates the light at one point and leaves the rest of the room dark. He states that it is surprising how powerful a ray can be thus produced from an ordinary incandescent bulb.

Therapeutische Monatshefte, Berlin.

Last indexed page 1173.

- 75 (XVI, No. 7.) "Successes" of Diphtheria Serum Treatment. Kassowitz.—Die Erfolge des Diph. heilserums.
- 76 Discussion of Diuretic Action of Boric Acid. O. Liebreich.—Ueber die diuretische Wirkung der Borsäure.
- 77 *Odda in Infant Feeding. E. Müller.—Zur Ernährung von Kindern mit Odda.
- 78 *Zur Behandlung der puerperalen Septico-Pyemie mit intravenösen Collargol Injektionen. Rosenstein.
- 79 So-Called Iodine Baths. Pelizaeus.—Ueber die sogen Iodbäder.
- 80 Modified Adenotome. L. Katz.—Ein modifiziertes Ringmesser (knieförmiges Adenotom) mit einigen Bemerkungen.
- 81 *Protargol Gelatine in Gonorrhea. P. Scharff.—Ueber die Urosanolbehandlung in der Gonorrhoe.
- 82 Present Status of Treatment of Whooping Cough. M. Schreiner.—Ueber den heutigen Stand, etc., und über neuere Erfahrungen mit Oxykampfer und Citrophen. (Concluded.) See also No. 8.
- 83 Clinical Thermometer that Can Be Boiled. E. Kantrowicz (Berlin).

77. Odda in Infant Feeding.—This artificial baby food differs from others in that it contains in large proportion the yolks of hen's eggs. Müller has found it specially useful added to the milk after the seventh month.

78. Collargol in Pyemia.—Rosenstein's experience has been favorable in his cases of puerperal septicemia treated with intravenous injections of collargol. He uses for the purpose a syringe of his own devising, which he describes and illustrates. When suppuration has already occurred, then all silver salts are ineffectual. He thinks the dosage of collargol, etc., is still in the experimental stage and that still larger amounts might possibly be injected with impunity.

81. Protargol Gelatin in Gonorrhea.—Scharff has treated 30 cases of gonorrhea with urosanol and found it very satisfactory, but warns that it should not be used for more than three weeks at a time.

Wiener klinische Wochenschrift, Vienna.

Last indexed page 1121.

- 84 (XVI, No. 39.) *Ein System der Lymphomatosen. W. Türk.
 85 Fall von Anemia splenica mit Uebergang in Lymphozyten-Leukämie. S. M. Zypkin.
 86 Zur Symptomatologie der Pellagra. L. Stefanowicz.
 87 (No. 40.) Mode of Action and Origin of Active Substances in Sera. Max Gruber.—Wirkungsweise und Ursprung der aktiven Stoffe in den präventiven und antitoxischen Seris.
 88 *Suture of the Septum in Prolapse Operations. R. Gersuny.—Die Septumnaht bei Prolapsoperationen.
 89 Zur operativen Behandlung des Klumpfußes und des Plattfußes. F. v. Friedländer.
 90 *Urotropin als Prophylacticum gegen Scharlach-Nephritis. J. Widowitz.
 91 (No. 41.) *Ueber den Circulus vitiosus nach Gastroenterostomie. O. Förderl.
 92 *Zur Chirurgie des kallosen penetrierenden Ulcus ventriculi. H. Lorenz.
 93 *Zur Skopolamin-Morphin-Narkose. M. Stolz (Graz).

84. Classification of Lymphomatoses.—Türk groups cases of lymphomatosis as the chronic benign, the acute and the chronic malignant. The first two groups are subdivided into the alymphemic, the sublymphemic and the lymphemic, the latter being chronic or acute lymphoid leukemia, both of benign character. The sublymphemic chronic benign is Pinkus' pseudo-lymphemia, and all forms of the partially aggressive, acute cases of lymphomatosis come under the heading of chloroma. The chronic malignant is lymphosarcomatosis, either local or generalized. All these types may appear independently and transitional forms may be observed, especially between the sublymphemic and lymphemic types. He describes a number of unpublished cases to illustrate the bases for this classification. He shows that chloroma is an acute lymphomatosis with a green coloring of the lymphoid proliferations and a special predilection in the skeleton for the periosteum and marrow in its localizations. The green coloring is an unessential symptom, not creating any essential difference between this form of the affection and other acute lymphomatoses of the same nature. Its predilection for the periosteum, dura and serosa justifies the assumption of partial aggressiveness, and this is sustained by the findings in the spleen, glands and marrow which present regularly the anatomic characteristics of acute leukemia. That is to say, the points where the conditions are unfavorable for the washing away of the cells exhibit evidences of injury. When the lymphatic system is abnormally functioning or enlarging or the lymph cells are being produced in abnormal abundance—if the lymph cells are not swept away they pile up and cause the formation of a tumor. This is liable to become aggressive at any moment, and especially at those points where the local anatomic conditions are such as to interfere with the washing away of the cells. As these anatomic conditions differ at various points, the subject may exhibit simultaneously benign tumor formation at one place and partially aggressive at another, without justifying the assumption that two different processes are involved. Benign lymphomatosis is also liable to become transformed into a localized lymphosarcoma at any time. This is particularly likely to happen in the aleukemic forms, anything causing even a slight, local or transient increase of the slow, gradual proliferation may impart the impulse to local aggressive growth. In conclusion he notes that the more acute the course of the lymphomatosis the more pronounced the abnormal character of the cells. It is possible that the leucoblastic myeloid tissue may suffer likewise from such acute hyperplastic affections, with production of similarly abnormal cells, ending finally in cells which no longer differ essentially from those observed in acute lymphomatosis. There are probably borderland affections of these great systems, the intermediate rôle being the acute hyperplasia of both systems. It is possible that many puzzling cases may prove to be a myeloid counterpart to the acute lymphomatoses.

88. Suture of the Septum in Prolapse Operations.—This article was contributed to the Chrobak *Festschrift*, 1903, and is accompanied by ten cuts showing the various steps of the technic, the aim sought and the conditions realized. Gersuny believes that prolapse after childbirth is due more to the injury to the pelvic cellular tissue than to the stretching of the vagina, etc. He remedies the conditions in vaginal cystocele by restoring and strengthening the vesico-vaginal and the

recto-vaginal septa. He detaches the anterior wall of the vagina from the cystocele throughout its entire extent. The wall of the bladder is then pushed inward and the size of the organ thus reduced, and this reduction assured by two sutures. This reduces or closes the gap in the septum, and by reuniting the anterior vaginal-wall flaps the suture of the septum is re-enforced. The proctocele is then treated in the same manner—a superficial circular suture is run around the prolapsed portion and after reduction the thread is drawn up and tied. The perineum is then restored with buried sutures, but the suture of the septa is the main feature of the intervention.

90. Urotropin as Prophylactic Against Scarlet-Fever Nephritis.—Widowitz has never had a case of nephritis among his 102 scarlet fever patients since he introduced the plan of preventive administration of urotropin. He gives from .05 gm. to .5 gm. of urotropin three times a day, according to age, during the first three days of the disease, and again at the beginning of the third week, for another three days.

91. Circulus Vitiosus After Gastroenterostomy.—Föderl reviews his experience as assistant at Gussenbauer's clinic, 1895-1902, during which time 62 gastroenterostomies were performed. A certain number presented symptoms of the circulus vitiosus, and Förderl is inclined to attribute this to the too acute angle formed by the anastomosed loop. As it bends in a sharp angle the lower wall projects into the lumen in a sharp fold, acting like a valve at times, closing the lumen of one or the other arm of the loop. He shows that this can be prevented by shortening the mesentery of the anastomosed loop. When three radial stitches have been taken in the mesentery just below the point of the anastomosis, and tied, this takes a tuck in the mesentery and the loop is unable to stretch up into a sharp point, but must retain its broad curve.

92. Treatment of Gastric Ulcer.—Lorenz relates two cases of the so-called callous penetrating gastric ulcer which required an operation. The patients were women of 52 and 57, and the tumors tore in each case as a drain tube was being introduced. This variety of ulcer does not have as good prognosis as others, but both these patients rapidly recovered. Lorenz thinks that there may possibly be some connection between this unexpectedly favorable result and the tearing of the ulcer tissue during the intervention. It may have mobilized the tissues and thus have created better conditions for healing in place of the rigid ulcer growth.

93. Scopolamin-Morphin Narcosis.—Stolz was obliged to complete the narcosis with inhalation of an anesthetic in 309 out of 465 patients anesthetized by the scopolamin-morphin method. Three of the patients died in consequence of the injections, one exhibited profound and 9 slight asphyxia, while heart weakness was frequently observed.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 1173.

- 94 (L. Nos. 3-4.) *Nitrogenous Substances in Pathologic Urine. R. von Jaksch (Prague).—Weitere Mitteilungen über die Verteilung der stickstoffhaltigen Substanzen im Harn des kranken Menschen.
 95 Increased Heat Production as a Cause of Fever. W. Hale White.—Vermehrte Wärmebildung als eine Ursache des Fiebers.
 96 *Tendon Reflexes in Nephritis. A. Lion (von Leube's clinic, Würzburg).—Das Verhalten der Sehnenreflexe bei Nierenentzündung.
 97 Why Are Scientific Deductions in the Domain of the Healing Art So Difficult, etc. O. Rosenbach.—Warum sind wissenschaftliche Schlussfolgerungen auf dem Gebiete der Heilkunde so schwierig, und in welchem Umfang können wesentliche Fehlerquellen durch die betriebstechnische (energetische) Betrachtungsweise vermindert oder beseitigt werden? (Concluded.)
 98 Ueber muskuläre pathica, Senatochen Ursprungs (dorsalis myo-des traumatis-Berlin).
 99 *Blood Pressure a druck und Körperarbeit.
 100 *Influence of Nutritive Enemata on Peristalsis and Secretion in Gastrointestinal Canal. O. Loewe (von Leube's clinic, Würzburg).—Ueber den Einfluss von Nährklystieren auf die Peristaltik und Sekretion im Magendarmkanal.

94. Nitrogenous Substances in Pathologic Urine.—The extensive researches here described may be epitomized in the statement that in diabetes, typhoid fever, liver affections and certain cases of exophthalmic goiter, there is a very slight in-

crease in the amido-acid nitrogen. Also that 1.5 to 3 per cent. of the total nitrogen in the urine consists of amido-acid nitrogen, and that this percentage may be increased by the diet. Von Jaksch announces further that 95.85 to 98.36 per cent. of the nitrogen in the urine in morbid conditions, not precipitated by phospho-tungstic acid, consists of urea. On the other hand, 5.16 to 8.51 per cent. of the nitrogenous compounds precipitated by this agent consists of purin bodies and ammonia. He found that 83.83 to 91.07 per cent. of the total nitrogen in the urine is in the form of urea, while 1.52 to 3.61 per cent. is in the form of amido-acid nitrogen. Multiplying the total nitrogen by the proportion of nitrogenous substances precipitated by phospho-tungstic acid in urine free from albumin, gives the percentage of urea sufficiently accurately enough for clinical purposes.

96. Behavior of Tendon Reflexes in Kidney Disease.—Lion found that the knee-jerk was about normal in afebrile cases of nephritis, but that it became exaggerated as the affection grew more serious, especially with threatening uremia. In contracted kidney with good diuresis it was normal. In only 5 out of 262 cases were the reflexes diminished. The exaggeration in severe nephritis may be regarded as a sign of retention of substances which normally enter into the formation of urine. As the symptoms become attenuated with recovery or transition into the chronic form the reflexes have a tendency to return to normal.

99. Blood Pressure and Physical Exercise.—Karrenstein refers to a vasodilating reflex the reduction of the blood pressure noted after long-continued physical exercise.

100. Nutritive Enemata in Regard to Peristalsis.—Loewe examined the exposed stomach and intestines of cats, after injection of a nutritive enema to the ileocecal valve. He found that the addition of opium rendered the absorption of the fluid possible without any motor stimulation of the stomach or small intestine. The large intestine always showed signs of peristalsis, although very slight, and it was noted also in the small intestine when the opium had been omitted. He concludes that nutritive enemata may be used with impunity in case of affections of the stomach and upper intestine, and (with opium) of the middle intestine, but they are contraindicated in case of perityphlitis and typhoid fever, especially during the period when the scabs are being thrown off. He found droplets of oil from the enema in the entire intestinal canal and even in the stomach in 2 cases.

Brazil Medico, Rio de Janeiro.

Last indexed page 1174.

- 101 (XVII, No. 26.) Modified Phimosis Forceps. A. B. Benjamin.—*Placa de phimosis modificada.*
- 102 (No. 28.) A febre amarella e a cellula hyalina. J. B. de Lacerda.
- 103 (No. 29.) Blood-sucking Insects in Southern Brazil. A. Lutz.—*Nota preliminar sobre os insectos sugadores de sangue observados nos Estados de S. Paulo e Rio de Janeiro.*
- 104 *Brazilian Method of Treating Aneurisms of Aorta. A. de Freitas.—*Methodo brasileiro ou voltação cutanea positiva no tratamento dos aneurismas da aorta.*
- 104½ (No. 31.) Serumtherapy da peste.—*Valor curativo do serum antipestoso de Butantan.* V. Godinho.
- 105 *Report of Committee on Transmission of Yellow Fever by Clothing.—*Febre amarella.*
- 106 (No. 32.) Sobre alguns signaes cardiacos ainda nao descriptos na febre amarella. A. Austregesilo.
- 107 (No. 34.) Estudo de algumas formas clinicas do paludismo. E. Meirelles. (Concluded.)
- 108 (No. 35.) Conclusion of Report of Fifth Brazilian Medical Congress. (Commenced in No. 25.)

104. Electric Treatment of Aneurisms.—De Freitas calls this method of positive cutaneous galvanism "the Brazilian method," and claims that it deserves the preference over all others, as it aids Nature, and is the easiest for the patient. He exhibited a patient at the local medical society whose aneurism of the ascending aorta had been reduced from 42 cm. in circumference to 37, with the complete cessation of all the annoying symptoms and final reduction of the aneurism by 5 cm. in all its diameters. In one patient, after potassium iodid had been used for two years without relief, the electric treatment proved rapidly successful in arresting the pains and distress. Another patient had been treated for five years in vain with other measures, and received the same benefit as the first from the electricity. His record includes 5 others

all materially improved. As many as 50 sittings were needed in some cases to produce the desired result.

105. Non-Transmission of Yellow Fever by Clothing.—The committee appointed by the Brazilian authorities report an interesting series of experiments. Nine persons went to the isolation hospital and slept on bedding and wore garments from yellow fever patients. In the room occupied by some of the subjects three bottles were opened—one containing urine from a yellow fever patient, another black vomit, and a third some yellow fever feces. The garments and bedding were also shaken in the room. The tests were continued from February 18 to May, and none of the subjects nor the members of the committee have shown the slightest symptoms of illness to date.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Applications of Hematology. By James Ewing, M.D., Professor of Pathology, Cornell University Medical College, New York. Second edition, revised and enlarged. Price, \$3.50 net. Cloth. Pp. 492, with 43 engravings and 18 full-page colored plates. Philadelphia and New York: Lea Brothers & Co.

THE TREATMENT OF CERTAIN MALIGNANT GROWTHS BY EXCISION OF EXTERNAL CAROTIDS. By Robert H. M. Dawbarn, M.D., Professor of Surgery and Surgical Anatomy in the New York Polytechnic Medical School and Hospital. (The Samuel D. Gross Prize Essay.) Pp. xiii-192. Cloth. Price, \$2.00 net. Philadelphia: F. A. Davis Company.

THE NATURE OF MAN. Studies in Optimistic Philosophy. By Elie Metchnikoff, Professor at the Pasteur Institute. The English Translation. Edited by P. Chalmers Mitchell, M.A., D.Sc., Oxon., Secretary of the Zoological Society of London. Cloth. Pp. 309. Price, \$2.00 net. New York and London: G. P. Putnam's Sons. 1903.

A TEXT-BOOK OF PRACTICAL GYNECOLOGY, for Practitioners and Students. By D. Tod Gilliam, M.D., Professor of Gynecology in Starling Medical College, Columbus, Ohio. Cloth. Price, \$4.00 net. Illustrated with 350 engravings, a colored frontispiece and 11 full-page half-tone plates. Philadelphia: F. A. Davis Company.

DISEASES OF WOMEN. By Alfred Lewis Galabin, M.A., M.D., F.R.C.P., Late Fellow of Trinity College, Cambridge. Sixth Edition. Much Enlarged. With 284 illustrations. Cloth. Pp. 695. Price, \$5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

STATIC ELECTRICITY, X-RAY AND ELECTRO-VIBRATION. Their Therapeutic Application. By Franklin B. Gottschalk, M.D., Professor of Diseases of Children, Jenner Medical College. Cloth. Pp. 176. Price, \$2.00. Chicago: T. Elsele.

TREASURY DEPARTMENT. Spotted Fever (Tick Fever) of the Rocky Mountains. A New Disease. By John F. Anderson. Paper. Pp. 50. Washington: Government Printing Office. 1903.

New Patents.

Patents of interest to physicians, October 20 and 27.

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| 741996. | Vaporizer. Godfrey Beaumont, Dallas, Texas. |
| 741886. | Vaccine tube. Walter H. Chandler, Toronto, Canada. |
| 741929. | Hernial truss. Wm. S. Rice, Adams, N. Y. |
| 742081. | Strabismus goggle. John E. Stierle, Marshfield, Wis. |
| 741849. | Artificial leg. Charles E. Stone, Port Townsend, Wash. |
| 741989. | Closure of vessels for sterilized substances. Jochum K. Van der Heide, Amsterdam, Netherlands. |
| 741742. | Sterilizing apparatus. George Van Eyck, Oeslingen, Germany. |
| 742377. | Tablet-feeding machine. John W. and A. M. Ayers, New York, N. Y. |
| 742560. | Sterilizer. Robert P. Barnstead, Ashmont, Mass. |
| 742287. | Massage instrument. Louis Casper, Chicago. |
| 742608. | Truss. Royal Doane, Elmira, N. Y. |
| 742634. | and 742635. Medicament injector. Thomas E. Hall, Chicago. |
| 742434. | Syringe. Engelbert Hrlss, Frankfort-on-the-Main, Germany. |
| 742329. | Sight-testing apparatus. George Johnston, Detroit. |
| 742790. | Stethoscope. Wm. Jones, Denver. |
| 742341. | Ozonator. Joseph Miller and F. M. Ashley, New York. |
| 742244. | Machine for producing hot-air currents and liquid spray. James C. Sherburne, Des Moines, Iowa. |
| 742814. | Surgical appliance. Albert V. Todd, Denver. |
| 742762. | Hypodermic syringe. Ralph Walsh, Washington, D. C. |
| 742534. | Massaging implement. Julius B. Wantz, Chicago. |

THE PUBLIC SERVICE.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department will hereafter appear near the center of the reading pages, to allow the publication of each report one week earlier. The first and last pages of THE JOURNAL go to press before those in the center.]

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Original Articles.

OPERATIVE TREATMENT OF BILATERAL CICATRICAL ANKYLOSIS OF THE JAWS.

A CONTRIBUTION BASED ON A REPORT OF A CASE OF
TWENTY YEARS' DURATION, RELIEVED BY A SERIES
OF PLASTIC AND OSTEOPLASTIC OPERATIONS.*

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NEW ORLEANS.

The occurrence of permanent trismus or "locked jaws" ("ankylosis," "occlusion," "constriction" of the jaws) may result from a variety of well-known causes which, according to the permanent or temporary nature of the cause, or the parts involved in the pathologic process, vary in their prognosis and in their amenability to treatment. It is not my purpose to discuss this subject systematically, but to limit my remarks to the consideration of that most frequent, distressing and intractable variety of trismus in which the jaws are permanently locked and immobilized by the formation of rigid cicatricial bands and masses which hold the maxillæ in an unyielding clasp, reduce the capacity of the buccal space and thus more or less completely interfere with the movements of mastication. (Ankylosis spuria mandibulæ of the older writers.)

While the movements of the lower jaw may be restricted by the formation of cicatrices in the soft parts outside of the mouth in consequence of destructive lesions, accidental injuries, pathologic processes and surgical operations which cause great destruction and scarring about the face, the peribuccal and perimaxillary tissues, as is often seen as a sequel of burns, gunshot wounds, carbuncles and malignant ulcerations, etc., these are not, as a rule, so serious from the functional or surgical point of view as the class of cases in which the immobility of the jaws is caused by a destruction of the lining mucosa of the mouth. In these cases the mucous membrane is usually destroyed by progressive ulceration or gangrenous inflammations which, spreading on the inner surface of the cheek, give rise to either unilateral or bilateral ulcerations, which in healing leave large areas of dense, retractile, cicatricial tissue. Many of the most destructive, gangrenous and ulcerative infections of the mouth which are responsible for the loss of the oral mucosa occur in early life (noma, cancrum oris, scarlatina, diphtheria, mercurial stomatitis, syphilis, tuberculosis), and, as a result of the tender age of the patients, lead, when neglected, to a series of secondary changes, which influence most injuriously the entire development of the face, thus adding great disfigurement to a

distressing interference with a most important function.

When cicatricial trismus occurs in early childhood the development of the lower jaw is greatly interfered with, and it remains rudimentary and infantile in size and shape. The chin is dwarfed, small and retracted, giving to the face an asymmetrical and ungraceful appearance (micrognathism), which is most striking when viewed in profile (the so-called "bird face"). The eruption of the permanent teeth is likewise interfered with; the molars make their appearance in vicious attitudes; more often they are deviated from a vertical to an oblique or horizontal axis and the grinding surfaces face the tongue instead of the teeth of the upper jaw. The front teeth of the upper jaw project beyond the lower set; the lower teeth are imperfectly developed, unhealthy and covered with thick, offensive salivary incrustations and food accumulations. The secretions of the mouth are usually malodorous from stagnation, and there is a perceptible dribbling of saliva when the angles of the mouth are involved in the contraction. In spite of the rigidity of the jaws, the reduced buccal space, and the inability to separate the teeth, and of their extremely defective mode of feeding, it is remarkable how well these patients adapt themselves to these conditions and succeed in keeping up a fair state of general nutrition. More often, however, these persons succeed in nourishing themselves because of the absence of teeth or irregularities in their development, which allow the food to be forced between the missing teeth or interdental spaces. The entire muscular apparatus of mastication undergoes atrophic changes from arrested development and disuse: in fact, the entire innervation and vascular supply of the inframaxillary portion of the face suffers from the same cause and retains an infantile form, markedly contrasting with the upper jaw and face, which continue to develop and grow in normal proportion until adult life.

To add to the complexity of these cases, we find that the cicatricial masses in the rear mouth undergo, in some instances, a process of osseous infiltration, which transforms the scar tissue into a solid piece of bone, of the consistence of old callus, which permanently unites the upper and lower maxillæ into a single immovable bone.¹ This is particularly true of those fortunately rare cases in which the original causal infection has spread from the mucosa to the periosteum, exciting this to the formation of hyperostoses by the proliferation of osteoblasts in the budding granulation tissue.

When these ossified bands exist, they are usually found in the posterior part of the mouth, in the vestibular

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Numerous cases of ossification of intrabuccal bands will be found reported in the literature; the cases reported by C. Esterle, B. Holt, Marchlaffa, Sebastian, Walter, Sarrazin, Heath and others, are fully referred to in the index catalogue of the Surgeon-General's Library, vol. vii.

space, extending from the upper gingival border to the inner surface of the body of the lower jaw, as far forward as the bicuspid or even the commissure of the mouth. In dealing with cicatricial occlusion within the mouth, the resistance, thickness and density of the scar bands must be considered. Not only is the cartilaginous and osseous transformation of these bands a matter of importance, but their situation and limitations are of still greater importance in determining the prognosis and the mode of procedure.

As shown by Verneuil, who so ably studied this form of maxillary ankylosis 40 years ago, we should try to distinguish, for practical purposes, the cases in which the cicatrices occupy the anterior from those which contract the posterior regions of the oral cavity. When the scar bands are limited to the anterior (facial) part of the vestibule and lips, the prospect of operative relief is excellent and the prognosis very favorable; but when the scar masses are formed on a level with the last molar or in the pterygoid region along the angle, body, and ramus, the possibility of restoring the mobility of the lower jaw without resorting to some form of intrabuccal plasty, combined with osteotomy and pseudarthrosis, is reduced to a minimum. Even a comparatively superficial destruction of the mucous membrane in the retrovestibular space and along the inner surface of the ramus is sufficient to cause permanent contraction and immobility of the jaw, because in the normal state the mucous membrane is tightly stretched over and adherent to the periosteum and peribuccal tissues. Inflammatory and ulcerative processes starting in the mucous membrane at this level, therefore, are easily propagated to the periosteum and bone, forming dense, fused, unyielding masses, which do not permit of anatomic differentiation into their component elements.

It is evident from what has been stated that the problem which confronts the surgeon who would attempt to give relief in such cases by mobilizing and liberating the lower jaw is far more complex than a superficial glance at the subject would imply. In fact, the division or excision of the constricting cicatricial bands is only one of its phases, and other factors in the problem must be considered before anything like a functional restitution of the lower jaw can be obtained. In view of the arrested development of the jaw, of the atrophied and shortened muscles and ligaments which are concerned in the control of the inferior maxilla, and the vicious attitude of the teeth, it is evident that neither a functional, cosmetic or anatomic restitution, in a complete sense, can be expected by any mode of treatment. Nevertheless, even in such extreme cases, fortunately very rare at the present time (when the opportunities for surgical relief are given to all in almost every community), the surgeon may still hope to restore the mobility of the lower jaw sufficiently to permit of easy feeding and mastication, and thus greatly relieve the condition of these unfortunate sufferers.

In the treatment of the rare and grave type of cases which we have in view, no single method of treatment will suffice, and it is only by judiciously combining a variety of procedures that we may hope to release the jaw and obtain a certain degree of mobility which will permit the patient to open his mouth and to masticate solid food.

In unilateral cases, and especially where the scar tissue only involves the angle of the mouth and lateral aspect of the cheek, the problem is solved with com-

parative ease, and a simple plastic operation will generally suffice. In the symmetrical or bilateral cases involving the deeper recesses of the oral cavity, osseous sections must be added to dermal transplantations to obtain the desired result. None of the ordinary method by which the jaw can be forcibly separated by mechanical dilators, wedges, conical screws or mouth gags can be expected to give even temporary relief; to have attempted any procedure of this sort on the patient whose history has furnished the text for this paper would have resulted simply in breaking the teeth or fracturing the jaws. The simple division of the ossified cicatricial masses with knife and chisel would have been dangerous on account of the great depth of the scars, and could not be considered.

Mears' method of dividing the scar tissue after creating a mucous lined tunnel under it with a seton-like ligature, valuable as it is and worthy of trial in simpler cases, was evidently impossible here.²

The various procedures which have been recommended for the permanent relief of cicatricial occlusion of the jaws, exclusive of the simple palliative and mechanical methods previously referred to, may be grouped under the following heads:

1. Division and excision of the scar tissue with substitution of transplanted skin or of mucous flaps, for the lost mucosa.

2. Division and detachment of tendinous insertions and aponeurotic expansions of the muscles of mastication at their surface of attachment to the lower jaw (masseter, pterygoid, etc.), after division of the cicatricial bands in the mouth.

3. Creation of a new point or center of motion in the body of the jaw (pseudarthrosis) by osteotomy in front of the resisting and unyielding scar masses when these exist in the postbuccal space.

4. Excision of the temporomaxillary joint, condyle or part of the lower jaw, with or without associate myoplasty.

EXCISION OF SCAR AND SUBSTITUTION OF HEALTHY SKIN.

The first group embraces the greatest number of suggestions, some of these very ingenious. We should note that in recent years and since the advent of a more aggressive and radical technic for the cure of malignant diseases, the indications for the extirpation of the mucous membrane of the mouth in dealing with growths of the face, and especially of the cheeks and lips, have increased. Surgeons have been compelled to tax their ingenuity considerably in the effort to prevent the con-

2. Dr. Mears' method is thus described by the author ("The Operative Treatment of Occlusion of the Jaws," by J. Ewing Mears, THE JOURNAL A. M. A., Sept. 18, 1897): "In performing this operation a long-handled, slightly curved needle threaded with a strong aseptic twisted-silk ligature of sufficient length, is introduced at the angle of the mouth on the inner surface and carried carefully into the space between the cicatricial mass and the buccinator muscle and the point made to emerge at the posterior border of the last molar tooth of the lower jaw—at which point the posterior border of the cicatricial tissue can usually be felt. The ligature is now seized with the toothed forceps, the needle withdrawn, the ends tied and the ligature left loosely in the channel thus formed. As the intention is not to divide the mass by the ligature, this is permitted to remain without traction, the formation of the canal lined by normal mucous membrane being facilitated by drawing the ligature backward and forward, and thus destroying any adhesions which may form. When a probe passes readily and smoothly and without provoking bleeding, it may be assumed that the canal is lined by normal mucous membrane. This is usually accomplished in three weeks, when the scar tissue is divided with a blunt-pointed bistoury introduced into the canal." A mouth gag is then introduced between the teeth, and the mouth forced open to the widest extent. This is repeated at intervals until the mouth is healed, etc. Dr. Mears' experience with this method appears to have demonstrated its permanent value.

tractions that necessarily follow an extensive extirpation of the mucosa.

In the endeavor to find a suitable material, free from the retractile tendency of scar tissue, a number of plastic operations have been devised (cheiloplasty and meloplasty), in which the transplantation of pediculated skin flaps have figured largely. Autoplastic skin flaps obtained from all parts of the face, neck and cheek and upper extremities have been utilized; mucous flaps from the mouth (palate and lips) have been tried less often; Thiersch grafts have been utilized freely as secondary aids to epidermization of raw surfaces; even heteroplastic flaps taken from the mucous lining of the dog's mouth have been transplanted from the living animal, but with very doubtful results.³

Among the more practicable and useful of the numerous plastic operations that have been suggested is the meloplasty of Jätsche.⁴ This operator, after splitting the cheek from the angle of the mouth to the masseter, including the cicatrized mucosa, sutured the skin of the cheek, on each side of the fissure, to the gums and mucosa of the vestibule inside of the mouth. After adhesion of the skin has taken place, two semilunar skin flaps of sufficient length are dissected out of the skin of the cheek and attached to the upper and lower lining of the artificial oral cleft, leaving the flaps attached to the gums, thus inverting the free skin edges into the mouth. After this the flaps are sutured in the mouth by their edges and the cheek is closed over the defect, restoring the mouth to its normal dimensions. Gussenbauer's⁵ method is in some cases still more serviceable. This author, after splitting the cheek through and through, from mouth to masseter, and thus dividing all resisting scar tissue freely, cuts a trapezoidal flap out of the lateral aspect of the neck and folds it over the denuded masseter into the mouth where it is sutured to the mucosa. After adhesions have been contracted, the pedicle is cut off and the graft is turned into the mouth throughout its free extent, with its dermal surface facing the teeth. After suturing it in place to the edges of the cleft and angle of the mouth on the inner side, the cheek is closed. Jätsche's and Gussenbauer's operations are typical of the modern methods of autoplasty and differ from the earlier operations,⁶ in which attempts at plastic repair were made by sliding flaps in which the dermal surface remained external and no allowance was made for secondary re-contraction of the flap surface on the inner or mucous side of the mouth.

Gersuny opens the mouth through an external incision made along the lower border of the jaw from the chin to the angle. A skin flap large enough to cover the defective area in the mouth is dissected from the submaxillary region and is completely mobilized, with the exception of a pedicle made of periosteum, cervical aponeurosis and other subcutaneous tissues. With this pedicle as a base of vascular supply, the flap is turned into the mouth

with the skin surface facing the teeth and is attached to the free margins of the defect. The external incision is then closed. This method has been variously modified by v. Ilacker, Eiselsberg, and Kraske. Its chief merit is that it diminishes the scarring in the face. On the other hand, Bardenheuer utilizes a pediculated flap borrowed from the hairless parts of the forehead with its pedicle attached to the lateral surface of the nose. This flap is turned into the mouth, where the skin is substituted for the defective mucosa. When the skin of the cheek has been destroyed with the mucous membrane, an additional pediculated flap is borrowed from the neck and made to cover the cheek in such a manner that the raw surfaces of both flaps are brought together; thus the forehead flap is made to serve as mucosa and the neck flap covers the defect in the cheek. This method has been adopted, with modifications, by Oberst, Rötter and others. In other cases, Bardenheuer filled the defects in the cheek with pediculated flaps borrowed from the arm.

Partsch of Breslau prepares his flap for transplantation before attempting to use it in the mouth by first dissecting and mobilizing it in the neck, after which its raw surface is covered with Thiersch grafts. In this manner the flap is covered with epidermis on both surfaces. When epidermization has been accomplished, the diseased area in the cheek is removed and the graft thus prepared is attached permanently *in situ*. In cases in which the gap to be covered in the mouth is very great, Hahn and Israel cut a very long pediculated flap from the neck and attach it to the mouth with the skin surface looking inward; after this has become adherent, the long pedicle is detached at its root and what remains of the flap is folded on itself so that the raw surfaces come together, leaving a thick double layer of skin at the seat of the defect. Hahn's flaps begin at the clavicle and end at the mamma. The flap is dissected upward toward its clavicular attachment and the mammary end is attached to the mouth; subsequently, when this has adhered, the clavicular pedicle is divided and the flap is folded on itself like a booklet, forming a double layer, as in the previous case. Following the same plan, Israel makes his flap extend from the angle of the jaw to the clavicle and utilizes them in the same way.

Czerny has applied similar methods by cutting out a long flap with its pedicle at the zygoma and its free extremity as low down as the middle of the sterno-mastoid; this flap is folded on itself and made to cover the defect in the cheek at the same sitting. In connection with these plastic transplantations of the skin into the mouth (meloplasty), it is well to remember with Loxar,⁷ to whom I am indebted for a large number of the preceding references, that the hope once entertained that the skin when transplanted into the mouth would lose its cutaneous peculiarities and finally cease to grow hair, has never been realized, though it has been shown by Ritschl that the skin does undergo atrophic changes in the course of time. Tufts of hair will grow in the mouth years after the transplantation of the skin. Thiersch mentions a case in which hair formed in this way 21 years after the operation. Hence the importance of selecting skin from normally hairless surfaces whenever possible. In operations on the cheek, the preservation of Stenson's duct and its replantation into the mouth is very important to prevent "weeping" scars.

3. See Unsted's case of cicatricial contraction of the jaws (unilateral), treated by transplantation of a mucous graft taken directly from a dog's mouth. Johns Hopkins Hospital Bulletin, December, 1890.

4. Jätsche, G.: Ueber die operation der Mundklemme. Med. Zeitung, Russland, St. Petersburg, 1868, xv, 269. The same: Zur operation Behandlung der narbigen Kieferklemme. Arch. f. Klin. Chirurg., Berlin, 1868, ix, 226-229.

5. Gussenbauer, C.: Ueber ein neues Verfahren der Stomatoplastik zur Heilung der narbigen Kieferklemme. Arch. f. Klin. Chir., Berlin, 1877, xx, 526-536, 1 pl.

6. See a noted case reported by Valentine Mott, "A Case of Rigidity of the Lower Jaw and Tallacottian Operation," Amer. Jour. Med. Sci., 1831-2, ix, 47-50, 1 pl.

7. Handbuch der Praktischen Chirurg., Bergmann-Bruns-Mikulez, Bd. 1.

In a few suitable cases the mucous membrane of the mouth in the vicinity of the excised areas may be utilized to cover the defect. We have already referred to Halsted's unique experience when he attempted to relieve cicatricial trismus by transplanting a fresh non-pediculated graft from the mouth of a dog to that of a boy suffering with this defect. I am not aware that the final outcome of this experiment has ever been published, but it is evidently an extremely uncertain method, which offers little prospects of practical results. In regard to the autogenic mucous grafts, Bayer has covered a defect in the cheeks by covering it with a mucous flap transplanted from the hard palate. In a case of carcinoma of the cheek, Oberst succeeded in overcoming the defect by cutting out two pediculated flaps from the inner (mucous) surface of the upper and lower lips respectively. He split the cheek to the masseter, extirpated the neoplasm and dissected the flaps from the upper and lower lips on their inner surfaces, sutured them together along their edges, leaving the raw surface outward, and the edges of the cheek-incision were closed over them. But these methods are of very limited application as compared with the cutaneous flaps, which are generally accessible and are far more manageable.

MYOTOMIES AND MYOPLASTIES.

In the second group of procedures that have been suggested and applied for the relief of cicatricial ankylosis, we should mention the division of the muscles of mastication or the detachment of their tendinous insertions with the object of creating more advantageous points of attachment and thus increasing the mobility of the lower jaw. It is doubtful that any permanent results can be obtained solely by myologic sections or reimplantations, except in cases of purely myopathic occlusion of the jaws. Such cases are reported in the literature in which good effects have been claimed, but the operations were either too recent when reported to prove the permanent success of the method adopted, or the procedures have been applied to cases in which the cicatricial contractions involved only the anterior region of the mouth and cheeks. In other instances the myotomies have been assisted by making a section of the jaw and creating a false joint, which is the really effective agent.

Gurdon Buck (1840), J. Carnochan (1846), J. R. Wood of New York (1850), J. W. Schmidt of Boston (1854), Müller and Little of New York, were among the first surgeons to report cases of tenotomy and division of the masseter and temporal for the relief of cicatricial constriction of the jaws in this country. The surgeons of other countries have reported a number of observations. LeDentu, in a more recent period, obtained a satisfactory result in a case in which the rigidity of the jaws was apparently caused by permanent contraction of the masseter and internal pterygoid, by making an incision along the angle of the jaw, through which he detached the masseter from its lower insertion as high up as possible; the adhesions of the mucosa to the body and ramus were also detached, and the internal pterygoid was also mobilized with a periosteome. After these parts had been freely mobilized, he was able to open the mouth with a gag and kept the jaws wide apart for several weeks until the muscles had become permanently inserted at a higher point of attachment.

More frequently, sections of the muscles (masseter, temporal) have been made with the view of interposing muscular and aponeurotic flaps between the sections of

the lower jaw, which is divided at the angle or at the ramus with the view of creating a false joint. In order to prevent the subsequent union of the fragments, muscular flaps borrowed from the masseter and pterygoids are interposed and sutured between the edges of the divided bone to insure the permanency of the pseudarthrosis. Verneuil first suggested this modification of Esmarch's operation and Helferich has adopted the same idea, in cases of true ankylosis of the temporomaxillary joint, by turning down a flap of the temporal after excision of the condyle. Lenz, Mikulicz, Riegner, Henle and Rochet have reported good results from this combined myo-osteoplasty.

OSSEOUS SECTIONS AND OSTEOPLASTIC OPERATIONS.

Sections of the lower jaw have been made through the condyle, the coronoid process, ramus and the body of the jaw. More frequently the temporomaxillary articulation has been excised or a linear section of the body (Rizzoli) or a cuneiform excision of the body (Esmarch) on a level with the angle, and including the angle, are now made, with the view of creating a pseudarthrosis.

Rhea Barton of Philadelphia was the first to suggest osteotomy for the relief of ankylosis in orthopedic surgery. Berard first suggested osteotomy of the condyle in ankylosis of the jaw. Carnochan, Richet, Dieffenbach took up the same idea and favored it about 1846. W. Grube⁸ is credited as the first, according to Mathé (quoted by F. Gunyon⁹), to perform an osteotomy of the ramus for ankylosis of the jaws by intrabuccal section, in 1863.

A. Cabot of Boston and Koenig have clearly defined the indications for temporomaxillary excision. Baumgartner, Küster, Kraske and Bergmann have contributed modifications in the operative technic, which are more or less advantageous. Excision of the temporomaxillary joint is now restricted to cases of true ankylosis of this joint, and the myoplasties which have been suggested by Verneuil and others previously referred to, simply aim at the prevention of recurrence of the ankylosis by the new formation of bone tissue between the excised fragments. The most decisive step in the operative treatment of cicatricial constriction was not made until Esmarch and Rizzoli almost simultaneously and independently of each other suggested and performed, in 1854 and 1857, the operations which bear their names. The object of both operators was to create a false joint in the body of the lower jaw in front of the unyielding cicatricial bands. Esmarch removed a section of bone and Rizzoli made a linear osteotomy. The two procedures have been variously modified, but Esmarch's operation is the one generally preferred, as it is the most certain to prevent a reunion of the bone fragments. The modification first suggested by Bruns, Bonnet, Wagner and Heath, by which a triangular piece of bone is removed from the body of the jaw, including the angle, is the one now preferred. The operation is best performed by external incision and without opening the mouth (Levrat). The Gigli saw is particularly well adapted for this purpose. The external incision will also permit the masseter and external pterygoid to be detached from their insertions as a preliminary to the excision of the angle.

The immediate results of this operation are strikingly satisfactory in mobilizing the jaw; but in order to obtain the best results in long-standing cases, as in

8. Arch. f. Klin. Chir., Berlin, 1863, iv, 165-182.

9. Dict. Encycloped. des Science. Méd. (Déchambre).

the instance here reported, the cicatricial tissue in the mouth must be excised and a flap of skin, transplanted from the nearest hairless region into the mouth, must be substituted for the missing or contracted mucosa. In bilateral cicatricial cases involving the deeper regions of the oral cavity, a combination of methods is indicated.

The selection of the method in each case must be made judiciously, according to the special conditions existing in the case. It must be remembered, however, in making Esmarch's pseudarthrosis that a false joint should be made on one side only, and that nothing is gained by a bilateral section of the body of the jaw. This has been done by some surgeons, but it is evident that they have overlooked the fundamental fact that by the division of the jaw on both sides by osteotomy not only is the nutrition of the middle fragment greatly impaired, so that it becomes an easy prey to infection and necrotic changes, but that all control of the isolated middle piece and the capacity to chew food, and even to open the mouth and close it, voluntarily, is greatly impaired, because of the separation and isolation of the middle fragment from the muscles of mastication. It is, therefore, important, in all bilateral cases, to limit the formation of a false joint to one side only, so that the function of the masseter, pterygoid and temporal of the other side may be maintained. The removal of the anterior cicatricial bands and substitution of dermal flaps by autoplasty will usually suffice to give to the patient motion and control of the jaw. Should more motion be required, the excision of the condyle, part of the ramus of the jaw (without injuring the temporal and pterygoid) on the side opposite the pseudarthrosis, will give room for the play of the muscles of mastication by increasing the temporomaxillary space. This last expedient is, however, only justifiable in cicatricial ankylosis of the grave osteogenic type herein described.

GENERAL CONCLUSIONS.

In cicatricial constriction of the jaw, the operative treatment must be guided by a full knowledge of the seat of the constricting bands; their extent, their density and their association with secondary developmental defects or associate lesions in the osseous, articular and muscular apparatus of the lower jaw. The age of the patient, the cause of the lesion, duration of the trismic condition, the seat and extent of the cicatrices, whether extra- or intra-buccal, are the most important elements in determining the final results of the operative treatment.

2. The most intractable and difficult cases are those in which the lesions are symmetric and bilateral, which begin in inflammatory and necrogenic processes in the mucous membrane of the retrovestibular and pterygoid regions of the mouth in early childhood, and are neglected until atrophic, degenerative and developmental changes in the maxilla and its condyle have taken place.

3. The best results are obtained by early and persistent treatment.

4. In the complex and neglected cases of the class referred to (intra-buccal), no single operative method is sufficient to obtain permanent relief. The cases involving the anterior portion of the mouth and cheek are the most favorable for treatment, and the simple method of division of the cicatrices suggested by Mears will probably suffice. In the deeper or retrobuccal cases, a combination of methods, including autoplasmic skin transplantations, osseous sections, with the creation of an unilateral pseudarthrosis (Esmarch), with or with-

out myoplasty, will be required to obtain a moderate, but advantageous, degree of motion of the lower jaw.

5. Simple plastic operations to replace the lost mucous membrane by transplanting skin are necessary, but not sufficient in the deeper posterior bilateral cicatricial contractions. They must be regarded solely as adjuncts to the formation of a pseudarthrosis.

6. In making a false joint by Esmarch's or Rizzoli's method, it is important that the procedure should be limited to one side only, because a bilateral pseudarthrosis will result simply in increasing the mobility of the intervening fragment, with loss of voluntary control. The best results are obtained by unilateral pseudarthrosis, combined with bilateral plastic dermal transplantations, to which may be added, in the gravest cases, excision of the maxillary condyle on the side opposite the pseudarthrosis, without damaging the temporal, pterygoid or masseteric attachments.

7. By the combination of the methods above presented and a prolonged course of maxillary gymnastics following osteoplasty, functional results may be obtained, even in the most forbidding cases, without, however, the expectation of attaining the surgical ideal, either as to cosmetic or functional results.

CLINICAL OBSERVATION.

E. S., age 28, white, male, farmer, was admitted to the Charity Hospital Nov. 14, 1900. The patient is a native of Louisiana; single; of good habits and gives an excellent family history; father and mother both living and healthy; has four sisters and five brothers all living and well. Has never had gonorrhea or syphilis and has never been addicted to alcohol. When 7 years old he had a fever which was called "brain fever," and during the treatment was given calomel, which caused a violent stomatitis and salivation followed by deep ulceration on both sides of the mouth and especially the inner surfaces of both cheeks. It was two months before his mouth was well, and after healing he found that he was unable to open his jaws in consequence of the cicatricial contraction of the mucous membrane. When 17 years old he had malarial fever and he was treated with calomel with the result that he was again salivated, leaving ulcers in his mouth which healed in two weeks. After these had healed his mouth was more firmly closed than ever and he had great difficulty in feeding himself. When he was 25 years of age he was again sick with malarial fever, and was once more treated with calomel, which was followed by the usual salivation and an ulcerative stomatitis which lasted several days. Since that time the original contraction of the mouth which had completely immobilized his jaws had greatly altered his physiognomy and had compelled him to subsist purely on fluid and semifluid foods. In 1898 a physician made an incision over the left condyle of the lower jaw, probably with the intention of resecting the condyle, but there is no evidence to show that this was accomplished. Several efforts were made at various times to force his mouth open by mechanical means, but nothing was obtained by these efforts except to cause him to lose several of his teeth.

Jan. 15, 1901, he was again admitted to the Charity Hospital and examined for the first time by the writer. The general examination showed a healthy man, apparently fairly well nourished, about 5 feet 5 inches in height and weighing about 125 pounds. The face at once attracted attention by the small and undeveloped appearance of the chin and by the immobility of the lower jaw, which gave a fixed, rigid and set expression to the face. The angles of the mouth were drawn down and were adherent, especially on the left side, to the lower jaw by a distinct synechial band. The front teeth (incisors and canines) were irregular, notched, carious and incrustated with tartar. They projected for a considerable distance in a forward and oblique direction over those of the lower set, which were even more irregular, carious and stained

by calcareous deposits and tobacco juice. The gums were ulcerated and retracted from the teeth. A tendency to salivary dribbling was noticeable at the angles of the mouth. The chin receded and was small, contrasting with the upper half of the face, which was well developed; the hair of the beard, of a light sandy color, was scant and there was scarcely any growth of hair on the chin or lips. The cheeks were rounded and fully developed, contrasting in this way with the smallness and infantile appearance of the chin and lower jaw. The patient spoke without moving the jaws, and this gave his speech a peculiar and indistinct enunciation. The jaws were so firmly set that the point of a pocket penknife could scarcely be inserted flatwise between the front teeth. On attempting to explore the mouth with the fingers it was found that the entrance to the vestibule was blocked, on a level with the canines, by the existence of extensive cicatricial bands, which, beginning at the angles of the mouth, prevented further access to the space between the cheek and teeth on both sides. The back teeth and molars appeared to be in absolute contact. A probe could not be passed between the rows of the back teeth and only penetrated to the end of the vestibule by keeping it in close contact with the bicuspid and molars. Not the least impression could be made on the lower jaw by any manipulation. Evidently the inner surface of both cheeks was lined by a cicatricial mass, which had entirely replaced the normal mucosa. It was remarkable in this case, as in other reported instances, that the general nutrition had been maintained throughout the long period of twenty years that this condition had lasted, and that the patient had not suffered a great loss of body weight in spite of the notable interference with alimentation. This was partly accounted for by the fact that the patient had lost several of his teeth and had succeeded in feeding himself with milk, eggs, cereals, soups and other soft foods, such as chopped meats, which he crowded into his mouth with the help of his fingers.

In view of the extremely aggravated condition thus presented to us, the existence of a bilateral and extensive symmetrical constriction produced by cicatricial bands which had entirely replaced the mucosa of the vestibule and of the cheeks, and also of the atrophied, rudimentary and undeveloped state of the lower jaw and of the entire masticatory apparatus—we were undecided for a while as to the best course to pursue. It was plain that nothing could be accomplished by the usual mechanical methods of separating the jaws or of dividing the cicatrices by the simple intrabuccal methods recommended by some writers, more especially by Mears, as there was absolutely no room for any intra-oral manipulations. Nevertheless, after further deliberation I decided to divide the cicatricial masses on both sides by the procedure originally suggested by G. Jäsehe, who described it nearly a half century ago, and which permits not only of a free visual exploration of the mouth, but also favors a substitution of the flexible skin of the cheek for the rigid and unyielding scar tissue after this has been divided and excised. This procedure appeared to be particularly applicable in his case, as the redundancy of the cheeks afforded an abundance of material for plastic work.

First Operation.—Feb. 1, 1901, the first stage of Jäsehe's operation was undertaken. After a preliminary administration of one-quarter grain of morphin hypodermically, the cheeks were infiltrated along the line of the proposed incision from the angle of the mouth to the masseter, a little below the middle line of the cheek. The cutaneous incision was mapped out with an intradermal injection of one-fifth of 1 per cent. Schleich solution, and the subcutaneous tissue was made tense by massive infiltration of a 0.2 per cent. eucain B. isotonic saline solution injected with the author's infiltration apparatus. The dense tissues lying between the mucosa of the mouth, the ascending ramus of the jaw and the masseter were also infiltrated with the help of a long needle attached to the apparatus. An incision was then made which completely divided the cheek and opened the buccal cavity from the mouth to the anterior border of the ascending ramus of the lower jaw (Fig. 1). In doing this it was found that the

mucous lining of the cheek had been completely replaced by a dense, thick scar tissue, which became harder as the ascending ramus of the jaw was approached. It was very difficult to divide this dense fibrous tissue with a knife, and as the end of the vestibular space was reached it was found necessary to resort to the sharp edge of a McEwen chisel to divide the scar tissue, which on the level with the last molars was found ossified and forming a bony bridge which clamped the two jaws and held them together as a single piece from one alveolar process to the other. By using the chisel freely the ossified tissue was divided and a considerable part of it was excised and removed. The cheek of the right side was anesthetized and treated in the same manner, the osseous bridge and scar tissue existing to the same extent as on the opposite side. After this had been done it was found the narrow space between the cheek and teeth was filled with a soft calcareous mass formed by a mixture of tartar, stagnant food and precipitated tobacco juice, all of which had accumulated and formed a thick magma in this inaccessible space. After removing this stagnant mass on both sides we were able to explore the mouth and investigate the condition and relations of the teeth more satisfactorily. By insinuating the edge of the chisel behind the molars we divided all constricting bands and ossified masses to the ramus of the jaw, and by using the chisel as a lever we were soon able to pry open the jaw sufficiently to explore the interior of the mouth and determine the full extent of the constricting lesion. By further use of a

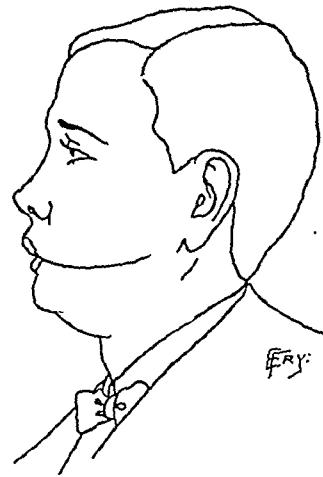


Fig. 1.—First stage of Jäsehe's operation shown in profile. Incision from angle of mouth to anterior border of masseter.

conical dilator and by forcible manipulation with the hands we succeeded in separating the jaws $2\frac{1}{2}$ inches apart, but we desisted from further efforts at this point for fear of breaking the delicate and undeveloped lower jaw.

After opening the mouth freely in this way we were at once struck by the vicious attitude of the permanent molars and bicuspid. In the twenty years that the constriction had existed the eruption of the permanent teeth had evidently been interfered with, and they had grown upward in an oblique direction, finally assuming a horizontal position so that the normal axis of each tooth was set at right angles to the alveolar margin; thus the grinding surfaces of the teeth were all turned toward the interior of the mouth. This abnormal attitude was much more marked in the lower than in the upper teeth. Having now obtained as much separation as was practically necessary for alimentation, we completed the first step of Jäsehe's operation by suturing the cutaneous edges of the divided cheek flaps with the relics of mucosa and dense tissue which covered the upper and lower alveolar processes at the gingivobuccal junction. This was done with some difficulty, as the sutures would cut through the scar tissue whenever they were tied with even moderate tension. We therefore found it necessary to support the tissues by packing the large buccal clefts that we had created on each side of the mouth with strips of iodoform gauze and holding these in place with adhesive straps. Fortunately, on account of the abundance of skin covering the cheeks, there was no tension,

we had little difficulty in maintaining the flaps inverted into the mouth until healing had taken place.

In the course of a few weeks the skin of the cheeks had united with the gums throughout the whole line of incision, and the appearance of the patient was that of a man with a huge oral cleft or macrostoma which extended from one masseter to the other (Fig. 2). After healing had taken place systematic efforts were made to widen the interspace between the jaws with the view of stretching the contracted and shortened muscles of mastication and of increasing as much as possible the impaired mobility of the lower maxillary. For this purpose several contrivances were used. In addition to the usual mouth gags (conical and Goodwillie's) a special contrivance by which elastic traction could be made on the lower jaw with rubber tubing was found particularly beneficial. This most effective appliance was used as follows: A heavy piece of rubber tubing $3\frac{1}{2}$ feet long by $\frac{1}{2}$ inch in diameter was stretched over the mouth in the cleft as far back as possible, behind the last molar so as to fit like a bit in a horse's mouth; the free ends of the tube were then crossed as a figure of 8 back



Fig. 2.—Profile, showing result after first stage of Jätsche's operation: a macrostoma or oral cleft remains as an extension of the mouth on both sides, to the masseter; the skin edges of the cleft are attached to the gums and vestibule of the mouth.

of the neck and each end again carried down in front of the chest on each side, below each axilla, and tied over the back of the chest while the rubber was stretched (Fig. 3). The immediate effect of this was to cause a flexure of the head on the neck and chest, but by forcibly extending the head backward while the patient was in a horizontal position the elastic tension made on the lower jaw caused the mouth to open to the widest possible extent compatible with the resistance of the muscles of mastication. By persisting in the fullest extended attitude of the head all muscular resistance was gradually overcome and even ligamentous tissues yielded and the maximum amount of separation of the jaws was obtained with the least amount of traumatism or suffering to the patient. Whenever the patient would tire of the extension he would simply flex the head and the elastic tension would at once diminish sufficiently to give relief. In this way elastic extension could be kept up intermittently for periods of half an hour or more at a time, thus securing the benefits of prolonged treatment, which he learned to apply himself with decided advantage.

The patient gave us the benefit of his most conscientious co-operation throughout the long duration of the treatment, and his patience, courage and willingness to help us were most admirable and inspired us constantly in our efforts to improve his unfortunate condition. During the two years that he remained at the hospital he was subjected to six operations. He became attached to the service and rendered most valuable help as an assistant nurse, and in this way we were given a most favorable opportunity to follow his progress and the effects of treatment.

On May 30, nearly five months after the division of the cheeks and separation of the jaws, the patient had made so

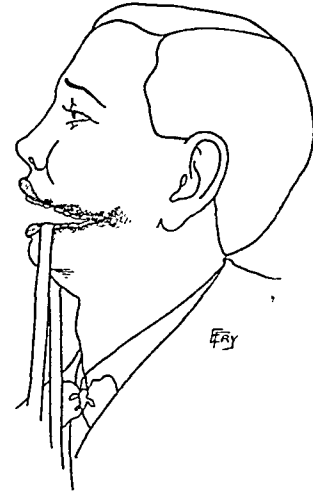


Fig. 3.—Separation of the jaws after division of the cheeks and scar tissue on both sides; first stage of Jätsche's operation (from a photograph).

much progress and was able to take nourishment so well and masticate all foods that we decided to complete Jätsche's operation by finally closing the gap in the cheek and restoring the mouth to its normal dimensions. This operation was performed under chloroform anesthesia May 30. Chloroform was given on this occasion because there was no longer the risk that was associated with the administration of a general anesthetic in a case of constricted and trismic jaws. Had we



Fig. 4.—Second stage of Jätsche's operation. Two semilunar flaps are dissected from the cheek on each side of the oral cleft. These flaps remain attached to the gums and alveolar borders on each side of the cleft; the free edges are turned down from the cheek.

given a general anesthetic when the jaws were locked, and had vomiting, extreme salivation or bronchorrhea occurred, the patient would have incurred great risk of suffocation and death from a blocking of the larynx before we could have been able to divide the cicatrices and open the mouth. The choice of an anesthetic is therefore a matter of more than usual concern in such cases, and the advantages of local anesthesia by infiltration are well worthy of consideration. After the mobility of the lower jaw had been secured the

special risks of a general anesthetic were eliminated and we did not hesitate to administer chloroform, which the patient took quickly and well.

The second step of Jülsche's operation consisted essentially in cutting two semilunar flaps (Fig. 4) from the upper and lower margins of the buccal cleft, each flap extending at its fixed or attached portion from the angle of the mouth to the end of the newly-formed cheek gap. After dissecting these flaps they were turned into the mouth in such a manner that the epidermal surface faced the interior of the mouth and formed the inner lining of the cheek, the raw surface looking outward (Fig. 5). The fixed edge remained attached to the gums and alveolar processes; the free margins were sutured together with fine chromic catgut, thus forming a complete cutaneous partition which replaced the lost mucosa of the cheek, the diaphragm thus formed also acting as a barrier to the secretions of the mouth and preventing their entrance into the cheek wound. The external incision in the cheek was then readily closed by a series of interrupted catgut sutures (Fig. 6). This procedure was successfully applied to both cheeks and the mouth was restored to its normal appearance and dimensions.

The external wound healed per primam and the inverted flaps in the mouth united *in situ* in the right cheek, but the flaps of the left side sloughed away, in consequence, no doubt, of the defective vascular supply which held it to the gums

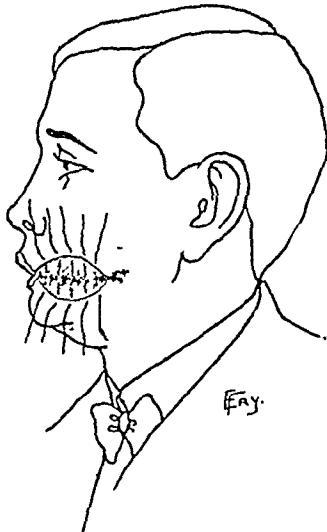


Fig. 5.—Second stage of Jülsche's operation, continued. The diagram shows the free edges of the cheek flaps sutured in the mouth to replace the lost mucosa; the raw surfaces look outward and are subsequently covered by suturing over them the raw edges of the cheek incision.

notwithstanding the long time that had been allowed to form nutritive communications (five months). This liability to necrosis of the flaps is no doubt the weak point in Jülsche's method of meloplasty in cases of this kind, when the flaps are cut off from the chief base of vascular supply and the nutrition of the skin is dependent solely on adhesions recently contracted with a cicatricial and poorly nourished base, such as usually exist in the scar tissue of the gums. In consequence of this unfortunate loss of the skin flaps on one side a secondary cicatricial contracture inevitably followed, and with it a partial relapse to the original condition of constriction that compelled us to resort to other expedients for the patient's relief.

From May 30, 1901, to Feb. 22, 1902, nothing further was done. The mouth and cheeks had healed completely and the patient was able to separate the jaws to some extent, but not more than half an inch in a vertical direction between the front teeth; the lateral motion remained improved, but was still greatly limited on account of the marked contraction of the left inner cheek, which had returned nearly to the condition existing prior to the Jülsche operation.

Therefore, in February, 1902, we decided that before undertaking any further plastic work with the view of correcting the remaining cicatricial contraction in the left cheek, we would increase the general mobility of the lower jaw by

excising the right condyle and a part of the ascending ramus, leaving the coronoid attachment of the temporal muscle intact, thus making more space for the play of this muscle and the masseter, which were irretrievably atrophied and shortened by early interference with the development and function of the maxilla.

The right temporomaxillary joint was excised and a large section of the ascending ramus of the jaw was also removed subperiosteally, leaving a considerable gap in the bone, which shortened the distance between the zygomatic arch and angle of the jaw on that side, thus approximating the points of attachment of the masseter and temporal without interfering with the periosteal attachment of the pterygoids. This wound healed kindly and without bad effects, as the branches of the facial nerve had been carefully protected throughout the operation. On the other hand, very little benefit was appreciable as far as the mobility of the jaw was concerned in view of the persistence of the cicatricial contraction of the left cheek, which prevented any exhibition of improved motion. Nevertheless, I have reason to believe that the extensive resection of bone at this point has been of value in favoring an increased mobility of the jaw by combining it with the procedures that were subsequently applied.

After this wound had healed we waited until April 21 before proceeding to the final operations by which we expected to completely mobilize the jaw. April 21 (two months after the excision of the right condyle), under chloroform anesthesia,

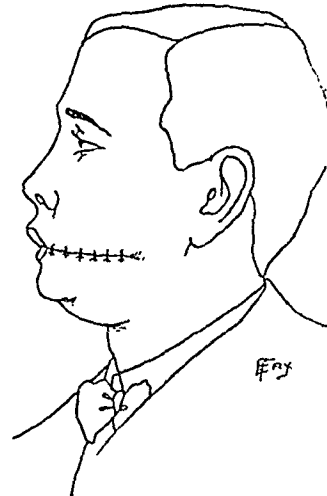


Fig. 6.—Jülsche's operation completed. The incision in the cheek closed by suture.

we again divided the left cheek along the line of the old cicatrix and at once a very fair separation of the jaws occurred, which gave us a gain of at least one and a half inches in the space between the front teeth. Fearing now that in spite of the splicing of a new and pediculated skin flap in the cheek that secondary contraction would take place, we decided to create a pseudarthrosis at the left angle of the lower jaw by excising a wedge-shaped piece of the maxilla at this point. This was done by Esmarch's method modified as follows: A horizontal incision about $2\frac{1}{2}$ inches long was made parallel with the horizontal ramus of the jaw and terminating at the angle, around which it curved upward, gently following its contour. All the soft parts were cut down to the periosteum, and the angle of the jaw was divided subperiosteally without disturbing the tendinous attachments of the masseter or pterygoid. The angle of the jaw was completely separated from the rami in two sections, one vertical, through the horizontal ramus, and the other a cross section through the ascending ramus, by passing a Gigli saw subperiosteally around the jaw at these points. The periosteal capsule was then divided at this point and the severed bone sections were separately covered with periosteum. This procedure not only protected the exposed bone surfaces, but effectively prevented a future restoration of the continuity of the jaw at this point, the musculo-aponeurotic expansions of the masseter and the external pterygoid being sutured together in the interspace between the divided bone surface. The effect of this newly-created point of motion in

increasing the general mobility of the lower jaw was very marked indeed, and we felt confident that if we could only succeed in preventing the formation of a retractile cicatrix in the mouth that a permanent and satisfactory mobilization of the jaw would be obtained. Therefore, at the same sitting we undertook a plastic restoration of the cheek somewhat like the method suggested first by C. Gussenbauer in 1877, by which a long, well-nourished, pediculated skin flap dissected from the hairless part of the neck is transplanted into the mouth as a lining for the cheek. A flap $3\frac{1}{2}$ inches in length by $1\frac{1}{4}$ inches in breadth was dissected from the neck and freely mobilized with its pedicle attached to the face close to the terminus of the gap in the cheek. The flap was turned on itself, and its entire edge was sutured to the inner surface

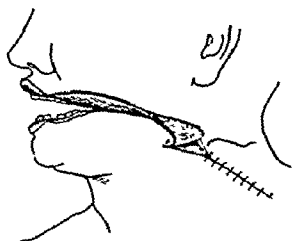


Fig. 7.—First stage of the modified Gussenbauer operation. The skin flap from the neck is turned into the oral cleft so that the skin edge is sutured to the inner raw surface of the cleft corresponding to the upper lip; the raw surface of the flap is also allowed to contract adhesions with the gum and cheek of the upper side of the cleft. After vascular connections have been formed the flap is turned completely into the mouth, as shown in Fig. 8.

of the vestibule from the angle of the mouth and along the inner border of the upper cheek flap. The lower edge of the transplanted flap was not sutured to the inner surface of the lower half of the cheek and the raw surface of the pediculated flap was thus allowed to come in contact with the thick raw surface of the upper half of the cheek (Fig. 7). Nothing further was done to close the gap in the mouth and this stage of the meloplasty was ended by simply closing the wound left in the neck after the transplantation of the pediculated graft.

The division of this plastic operation in two stages was adopted in this case because we were anxious to avoid the

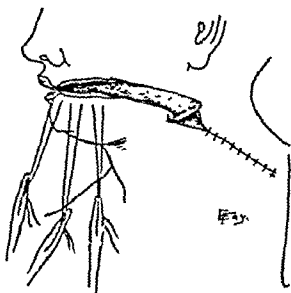


Fig. 8.—After firm adhesion has taken place, the transplanted flap is partially detached from the upper edge of the cheek cleft, leaving the gum line attached. The dermal surface of the flap looks into the mouth; the raw surface of the lower edge is brought into apposition with the raw inner surface of the lower cheek cleft. The two raw surfaces (of the cheek and of the flap) are brought together by a series of transfixion sutures (mattress type), which are tied externally over small pads of gauze.

risk of a second failure from sloughing, owing to defective vascular connections in the gums and mouth; we feared that in spite of the apparently abundant blood supply that came to the transplanted flap through its pedicle, that necrosis of its edges might occur from partial strangulation and infection if the flap was sutured in the mouth and the cheek closed over it. As a result of these precautions we had the satisfaction of seeing the transplanted flaps firmly united along the entire line of attachment to the inner surface of the cheek, where it remained in a well-nourished condition for the following six months. It was not until Nov. 22, 1902, that we undertook the final closure of the gap in the cheek, and this was done as follows:

The transplanted flap which had become firmly adherent throughout its attachment to the intrabuccal surface of the inner cheek was carefully detached from the cutaneous margin of the cheek cleft, leaving the upper skin surface of the graft attached to the gum and vestibule of the mouth. The lower half of the original skin incision was detached from the gum line and the lower border of the graft was inserted in the gingivobuccal groove and held firmly in place by a series of through-and-through mattress sutures, which held the raw surfaces of the graft and inner raw surface of the cheek in apposition (Fig. 8). The sutures (silkworm) were inserted with the Reverdin needle and the free ends of each suture were tied over a small pad of gauze on the outer surface of the cheek. After thus securing a complete apposition of the raw surfaces the cutaneous covering of the graft made a smooth lining for the inner surface of the cheek. The external incision in the cheek was closed over the graft by interrupted silkworm sutures throughout its length, except at its terminal (masseteric) end, where the pedicle of the graft was allowed to remain undivided, so as to insure its nutrition until a firm union had been obtained (Fig. 9).

Dec. 8, 1902, seventeen days after the cheek had been closed and no further doubt existed as to the vitality of the transplanted flap, and the success of the operation had been assured by the complete healing of the entire wound, we

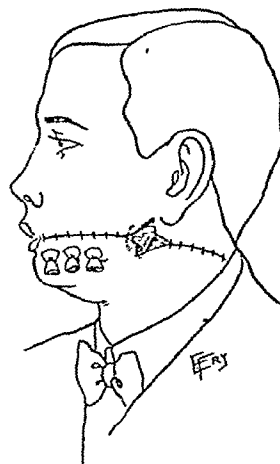


Fig. 9.—Appearance of face after suture of the cheeks in the modified Gussenbauer operation performed in this case. After suturing the cheek the pedicle alone remains to indicate the existence of the dermal flap, which has been transplanted from the neck into the mouth to replace the lost mucosa.

cocainized the pedicle and excised it, leaving a space at the terminus of the cheek incision, which was closed with a few catgut sutures. On the third day the wound had healed and the patient was well.

The patient remained in the hospital of his own accord until Jan. 8, 1903, when he was finally discharged to return home (Fig. 10).

Briefly summarizing the operative treatment of this case, we find that the patient was under observation at the hospital for a period of two years, from Jan. 15, 1901, to Jan. 8, 1903, and that during this time six operations were performed. The first operation (Feb. 1, 1901) was a complete through-and-through section of each cheek, including the division and incision of all cicatricial and ossified bands; separation of the jaws and suturing of the skin of the cheek to the gums, thus creating a huge oral cleft, or macrostoma (Figs. 1-3).

Second operation (May 30, 1901): Closure of the cheek gap by Jäsche's meloplasty. Third operation (Feb. 22, 1902): Excision of right condyle and part of ramus of the jaw. Fourth operation (April 31, 1902): Esmarch's cuneiform excision of the left angle of the lower jaw, to create a pseudarthrosis at this point; also

first stage of modified Gussenbauer's meloplasty. Fifth operation (Nov. 20, 1902); Gussenbauer's meloplasty completed by leaving pediculated neck graft in the mouth. Sixth operation (Dec. 8, 1902): Division of the pedicle of the transplanted flap and final closure of the cheek incision.

The final results obtained by these various operations and the protracted treatment associated with them was fairly satisfactory, and justified the sacrifices made by the patient in obtaining relief for what appeared in the start to be an absolutely irremediable condition. The chief object aimed at was to restore to the patient the ability to open his mouth, eat and chew food by increasing the capacity of the mouth and restoring the lost motion of the lower jaw. This object was to a

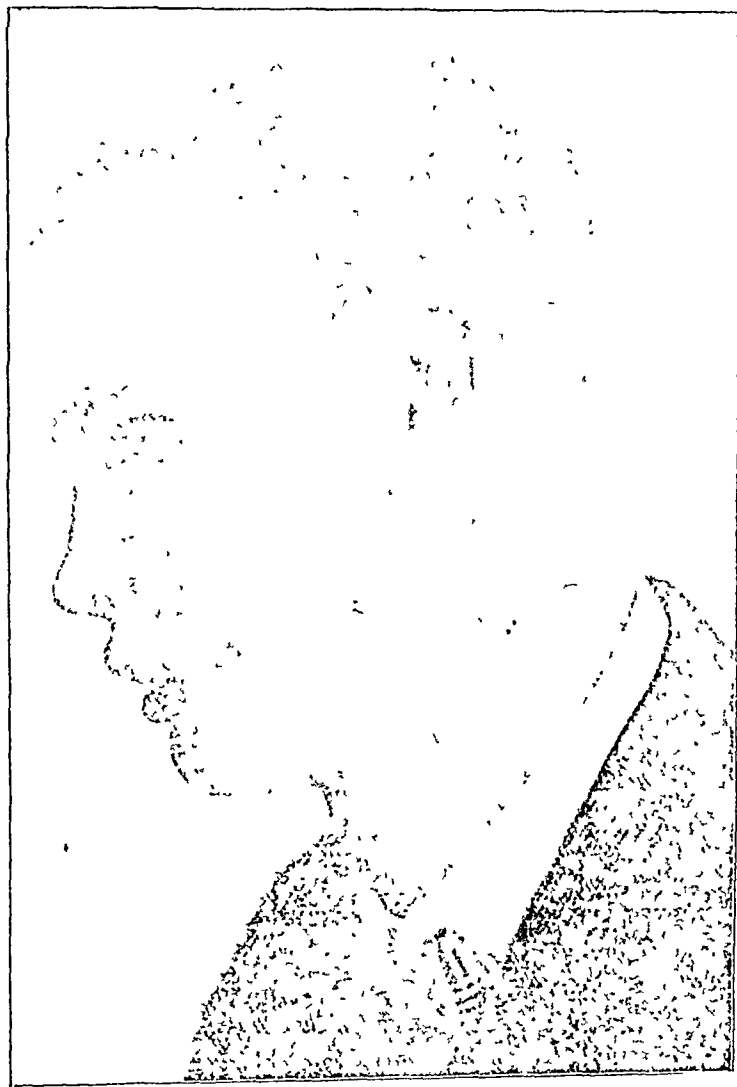


FIG. 10—Photograph of the patient at the time of discharge from hospital. The pedicle had been divided and all incisions had healed.

large extent attained without entailing any serious sacrifice of his appearance, which had already been seriously affected by the disease. When he was admitted to the hospital the front teeth could not be separated to the extent of admitting the blade of a penknife introduced flatwise. When he was discharged he could separate his front teeth more than an inch apart. He could move his jaws laterally quite freely, and could eat and chew any ordinary article of diet without difficulty. While freely recognizing that all facial scars should be avoided in correcting deformities of this kind, it is evident that when dealing with a case of this type cosmetic considerations must be relegated to a secondary plane, and that restoration of the lost maxillary function must be given the prime consideration.

DISCUSSION.

Dr. JOHN B. MURPHY, Chicago—This condition of ankylosis is a most trying one for the patient and for the surgeon. I have had the good fortune to have two of these cases. One of them was the result of ulcerative stomatitis, which destroyed all the tissues of the cheek except the skin. The cheek was one cicatricial mass, and the muscles were destroyed clear back to the angle of the jaw. The treatment consisted of division of the fibrous mass and excision of the scar tissue on each side up to the base of the teeth. The first thing that was done after making the incision through the growth was the complete removal of the cicatricial tissue through the mouth. A flap was turned back from the neck below the chin, with its base below the ear. It was drawn into the mouth through a small incision in the cheek at the angle of the jaw, then turned on itself so that the skin came against the teeth and the raw surface outward. It was sutured above and below to the gums and iodoform gauze packed between the teeth and the flap, so as to make a perfect apposition between the cheek and the surface of the flap, thus placing the cutaneous surface of the flap on the inside. The result was excellent and without much disfigurement.

The second case followed the removal of a large angioma, which had left a large cicatricial mass so firm as to displace the teeth inward in a straight line. The teeth stood in a straight row from the angle of the left jaw to the right bicuspid. Through an incision from the angle of the mouth to the angle of the jaw I removed all the cicatricial tissue except the skin. Portions of the angioma still remained. I made the reverse type of flap from the skin of the neck, sutured the edges to the gums and closed the incision in the mouth; the cheek was packed with iodoform gauze. I succeeded in this last case, which I considered the more desperate, in getting a very movable jaw.

In neither case did we have the pain and other complications preceding the operation which Dr. Matas had in his cases, and I desire to compliment him on his work on these cases.

Dr. J. R. EASTMAN, Indianapolis—I have had under my observation during the winter, a case of cicatricial ankylosis of the jaw which may be interesting to the members of the Section because of its rather unusual etiology. The case concerned a boy 7 years of age, who gave a negative anamnesis except that he recalled having fallen and having sustained what was described by his parents to have been a slight superficial injury at the angle of the right inferior maxilla. It was impossible for the boy to separate the jaws more than one-sixteenth of an inch, and he was therefore unable to take any other than liquid nourishment. It was also impossible to force open the mouth without using dangerous force.

There was a small scar and reddened area at the angle of the jaw. On making an incision over this scar and passing my finger along the ramus of the inferior maxilla I came on a hard object which proved to be a piece of wood one and one-fourth inches in length by one-fourth of an inch in thickness, jammed in between the ramus of the inferior maxillary and the superior maxillary bone. It was imbedded in scar and granulation tissue, which had become very dense. I removed the wood with a pair of forceps, and was immediately able to open the boy's mouth with slight force as wide as one-half inch. He has been able to chew food of all kinds, and I have not at this time advised further operation, though I am not unmindful that scar formation may make a plastic operation necessary.

Dr. E. D. MARTIN, New Orleans—The last case recalls one of a severe head injury, where pus had dissected down on either side of the scalp until the masseter muscles were seriously impaired and cicatricial contraction followed. This case I was enabled to cure by a very simple device. I had made for him an apparatus resembling a glove-stretcher. This he carried in his pocket, and in his odd moments would put it between his teeth and with a little force succeeded finally in stretching his jaws to their full capacity.

If I had a case so complicated as the one reported by Dr. Matas I should not hesitate to remove the lower jaw. We

know how satisfactory the results are in cases where the jaw is removed for sarcoma, and especially when a temporary splint has been kept in position until the wound has cicatrized. This would preserve the orbicular muscles and give, in my opinion, far better control of the normal structures.

DR. A. J. OCHSNER, Chicago—I wish to call attention in connection with this discussion to one point which became apparent to me in one of my own cases. It is this: that a deformity of the lower jaw, and especially of the teeth such as that encountered in Dr. Matas' case, will disappear to a very great extent in growing children, if the operation is performed while the child is young. In an operation which I did on a child six years ago, within a year the lower jaw grew and the new teeth came in properly and the appearance of the child is now very nearly normal. I think it is better to do the operation while the child is still young, because the deformity can be corrected to a considerable extent, provided the jaw and the teeth are not hampered in their growth by the pressure which is due to connective tissue.

DR. RUDOLPH MATAS, New Orleans—There is no doubt of the great value of plastic flaps in operations of this character as substitutes for the lost mucosa of the mouth, though their value has been doubted by some writers. Without the skin, which is fortunately quite available in the vicinity of the mouth, there would be no hope of ever restoring the mobility of the jaws in grave cases of this cicatricial type. The cheeks, forehead or neck offer the best material for skin transplantation. The skin ultimately assumes the characters of the mucosa, especially when borrowed from normal hairless parts. I am much pleased that Dr. Murphy's experience has confirmed my own. Dr. Eastman and Dr. Martin have recorded interesting cases. Dr. Martin's mode of separating the jaws is valuable, but not applicable to cases like the one under consideration. His suggestion that the removal of the jaw would be expedient in a case like the one reported is entirely too drastic. It is impossible to conceive how excision could in any way better the situation of such a patient. There is no question that my patient's condition is infinitely better now with a plastic that yields restricted motion than without a lower jaw, or with an artificial jaw, as an artificial jaw, no matter how ingenious it might be, could never take the place of even a fragment of healthy maxilla. I entirely agree with Dr. Ochsner's remark that these cases should be operated on early to obtain the best results. I did not see my patient until he was 27 years of age, when permanent atrophic change in the bones and muscles had taken place and when developmental defects in the eruption of the permanent teeth had made the task of a perfect restoration a practical impossibility. Had the operation been performed twenty five years before, I am confident very little traumatism would have been required to effect a cure. Nevertheless, when we consider the extreme conditions under which treatment was undertaken, the results must be considered highly satisfactory.

SURGICAL TREATMENT OF HIGH MYOPIA.

(SECOND PAPER.)*

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AND

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In an essay delivered before the Western Ophthalmological and Otolaryngological Association at New Orleans, Feb. 10, 1899, and published by Drs. Wurdemann and Murray in the *Annals of Ophthalmology*, April, 1899, the authors noted the rarity of high myopia in America and the relative frequency of this condition in the ophthalmic statistical reports of Germany and other European countries. A number of statistical tables were

given in this paper which have been amplified and are herewith appended. These are taken entirely from the authors' private practice during the last fourteen years, in which 10,500 pairs of glasses have been prescribed, this, of course, including renewals of prescriptions. The following table shows the refraction of 4,690 eyes under a cycloplegic:

TABLE OF CASES UP TO JAN. 1, 1899			
Refraction	No of Cases	Percentage	Percentage.
Myopia	172	3.7	17.3
M As	190	4.0	
Comp M As	471	9.6	
Hyperopia	1,148	24.4	76.7
H As	512	10.9	
Comp H As	1,942	41.4	
Mixed As	275	6.0	6.0
Total	4,690	100.0	100.0

In addition to these there were 755 eyes fitted for presbyopia without the use of a cycloplegic.

The following table shows the refraction of 3,331 eyes and includes those in which complete examination under cycloplegic was made, and 861 eyes examined without cycloplegic in persons over 45 years of age:

TABLE OF CASES FROM JAN. 1, 1899, TO JAN. 1, 1903			
Refraction	No of Cases	Percentage	Percentage.
Myopia	110	4.45	16.02
M As	56	2.26	
Comp M As	240	9.31	
Hyperopia	529	21.42	75.60
H As	320	12.96	
Comp H As	1,018	41.22	
Mixed As	207	8.38	8.38
Total	2,470	100.00	100.00
Presbyopia	861		
	3,331		

Out of the above number of 7,160 eyes refracted under a cycloplegic there are only 282, or 3.9 per cent., of simple myopia; and including simple myopia, myopic astigmatism and compound myopic astigmatism there are only 1,209 eyes, or 16.9 per cent., with myopia. Of the total number of eyes refracted, 8,776, there were only 78 eyes of myopia over 10.00 D. (0.888 per cent.). Operation has been suggested in 4 instances and accepted in 3 (6 eyes), and the result in the 6 eyes operated on has been extremely satisfactory, although each operation was much more complicated than ordinary cataract extraction.

But few of the high myopic cases were adapted for operation, as the large proportion achieved comfortable and useful vision by proper correction of the refraction. It will be observed in most cases that the high myopia was accompanied by a considerable degree of astigmatism. It is likely that the many operations done for high myopia by our foreign confrères need not have been undertaken if they had corrected the accompanying astigmatism which was the greatest factor of discomfort. In other cases marked deviation of the visual axes existed, as is usually the condition in myopia (that of divergence). A marked example of the benefits derived from the correction of the full refraction and of the muscular deviation was the following case:

CASE A—Sister D. (a nun of Notre Dame Convent), Milwaukee, July 25, 1899, presented an unusual picture of very high myopia with internal strabismus. She was wearing, R.—15.00 $\square$ prism 10° base out; L.—15.00 $\square$ prism 10° base out, fitted by an optician. With these she had homonymous diplopia with the red glass of 25° and left hyperphoria of 4°. The full refraction was, R.—20.00 $\square$ —1.00, 90°; V.—6/xxxxvi; L.—17.00, V.—6/xxiv; by adding prism 10° out with prism 4° down over the R. eye and prism 15° out over the L. eye, monocular vision could be obtained, but with no combination of lenses could easy or useful vision be given to both or either eye and the patient preferred to do without any glasses. Op-

* Read at the Fifty-fourth Annual Session of the American Medical Association in the Section on Ophthalmology and approved for publication by the Executive Committee: Drs. J. A. Lipplcott, Frank Allport and John E. Weeks.

erative work being suggested August 1, was accepted, the first step in which was to restore the visual axes to as near parallelism as possible; this being done by full tenotomies of both internal recti and advancement of the left external rectus. Monocular vision was immediately achieved, there being immediate exophoria of 2°. August 16 there was orthophoria in the distance; August 22, glasses were prescribed, R.—20.00

CASE B.—March 7, 1892, M. D., age 40, seamstress; vision 0° counting fingers at 2 m., could read ordinary print by holding book very close to face, which posture she habitually maintained while working; had tried many times to get refractive correction. R.—11.00—0.50, 90°, V.=2/lx; L.—11.00—2.00, 130°, V.=6/lx. These were ordered but were not tolerated; distance glasses changed later to R.—6.00—0.50,

TABLE OF MYOPIC CASES—10.00 D. OR OVER.

No.	Sex.	Age.	Vision.	Refraction.	V. After Refract.	Condition of Fundus and Media.	Treatment.
1	F.	15	O ² Fingers, 1 m.	O.D.—15 00 O.S.—14 00	Not given.	Not given.	Glasses ordered.
2	F.	30	" " "	O.D.—15 00 O.S.—11 00	6/xviii.	Patches of atrophy in choroid.	Full correction for dist., +4.00 added for near.
3	F.	"	" " "	O ² —16.00	6/xxxvi.	Not given.	Ord. O ² —13 00.
4	F.	"	" " "	O ² —14.00—1.00, 180°	O ² 6/xxxvi.	Not given.	+6 00 added for near.
5	M.	41	Fingers, 2 m.	O.D.—8 00 O.S.—11 00	" "	" "	1½° L. H. lens decent. down.
6	F.	O ²	" 2 m.	O.D.—11 00—50.45° O.S.—11 00—2 00, 130°	" "	" "	Full correction for dist., +5.00 added for near.
7	F.	60	" " ½ m.	O.D.—9 00—1 00, 135° O.S.—13 00—4.00, 105°	O ² 6/xl.	Extensive central choroidal disease with large staphyloma in O.D.	+6.00 added for near.
8	M.	55	" " ½ m.	O.D.—11 00 O.S.—7 00—1 00, 165°	O ² 6/x.	Slight choroiditis, some opacities in vitreous.	11° diplopia hetero. omens pr. 6° base in ord., +3 00 added or near.
9	M.	23	" " 2 m.	O.D.—11 00—1 25, 165° (1891) O.S.—9 00—1 75, 15° O.D.—14 00—1 50, 15° (1901) O.S.—12 00—1 75, 180°	O ² 5/x. O ² 5/x.	Progressive myopia, some choroiditis.	Full correction not tolerated, +3.00 added and worn constantly.
10	F.	30	" " ½ m.	O ² —16 00	Not given.	O.D. conical cornea, 37.00 D. at 180°	Glasses ordered.
11	F.	20	Not given.	O ² 16.00	" "	Not given.	" "
12	F.	69	Fingers, 2 m.	O.D.—12 00 O.S.—10 00	" "	Not given.	Glasses ordered, +1.00 added for near.
13	F.	21	Not given.	O.D.—10.00—2 00, 180° O.S.—10 00—2 00, 180°	5/xl.	Optic nerve atrophy, V. F., right especially reduced.	+1.00 added to full correction.
14	F.	9	6/xxxvi	O.D.—11 00 O.S.—11 00	5/xxxv. O ² 5/xxxv.	Not given.	Glasses ordered.
15	F.	20	1/lx	O.D.—14 00—3 00, 15° O.S.—20 00—3 00, 65°	=5/x. =5/xii.	O.D. slight post staphyloma; O.S. large post staphyloma.	Full correction for dist., +3.00 added for near.
16	F.	26	O ² 1/lx.	O.D.—10 00—1 50, 180° O.S.—10 00—1 50, 180°	=5/x. =?	O. S. optic nerve atrophy	Full correction for dist., +3.00 added for near.
17	F.	48	O ² 1/lx.	O.D.—5 00—8 00, 15° O.S.—10 00—5.00, 180°	O ² 3/xxxvi(?)	Hydrops cornea, from old staphyloma due to ophthalmia neonatorum.	Ordered O ² —9.00.
18	F.	37	O ² 1/lx.	O ² —13.00	O ² 5/xii.	Post staphyloma.	Full correction for dist., +3.00 added for near.
19	F.	19	O ² 1/lx.	O.D.—16 00—3 50, 180° (1897) O.S.—11.00—1 25, 180° O.D.—17 00—2 75, 180° (1898) O.S.—16 00—1 50, 180°	O.D. 6/xxxvi. O.S. 6/xxiv.	Large conus in O ²	+4.00 added for near, adv. op. which was accepted.
20	F.	63	Not given.	O.D.—17 00 O.S.—13 00	6/xxiv. 6/xxxvi.	Post-staphyl. vitreous opac., beginning lenticular opac.	Full correction for dist., +4.00 added for near.
21	F.	52	O ² 5/l.	O.D.—11 00 O.S.—5 50	6/xxiv. 6/xvii.	Old corneal macula O ² .	Full correction for dist., +2.50 added for near.
22	F.	33	Fingers, 1 m.	O.D.—18 00 O.S.—12 25—75, 75°	—6/lx. —6/vi.	Not given.	O.D. not corrected.
23	M.	18	Large objects.	O.D.—16 00 O.S.—16 00	Large objects.	Staphyloma, central chorio-retinitis, O. D. optic nerve atrophy.	Full correction for dist., +4.00 added for near.
24	F.	31	Not given.	O.D.—12 00—1 50, 165° O.S.—12 00	O ² 6/xxviii.	O ² large staphyloma	Full correction ordered, +6 00 added for near.
25	M.	38	Not given.	O.D.—13 00—1 25, 15° O.S.—13 00—1 25, 180°	6/lx. +6/lx.	Lateral nystagmus.	Full correction ordered.
26	F.	37	O ² finger, ½ m.	O.D.—20 00—1 00, 90° O.S.—17 00	6/xxxvi. 6/xxiv.	Internal strabismus, homon., diplopia 25°.	Tenot. and full correct. for distance, +4 00 added for near.
27	F.	63	Not given.	O.D.—13 00—0 37, 480° O.S.—13 00—1 25, 180°	6/xxiv. 6/xxiv.	Staphyloma choroiditis.	+1 00 added to full correction, +4 00 added for near.
28	F.	31	6/vi	O.D.—0 37, 90° O.S.—10 00—1 50, 30°	6/vi. 6/xxiv.		Full correction ordered.
29	M.	42	Fingers, 2 m.	O ² —16 00	6/xxiv.	Small retinal detachment on O.S., post-staphyloma O ² .	O ² —12 00.
30	M.	39	Fingers, ½ m.	O ² —17.00	Improved sl.	Choroiditis and vitreous opac. O ² , retinal detach. O.D.	Full correction ordered.
31	F.	38	Not given.	O.D.—15 00—1 00, 15° O.S.—15 00—1.00, 140°	—6/xii.	Large staphyloma, peripher. lenticular opacity O ² .	+1 00 added to full correction, +4.00 added for near.
32	F.	34	Not given.	O ² 18 00	Not given.	Choroidal change	Full correction ordered.
33	F.	2	2/lx.	O.D.—14 00—1 25, 180° O.S.—14 00—1 50, 180°			Could not tolerate glasses, operate (See report t.)
34	F.	40	2/x	O.D.—16 00—3 00, 180° O.S.—13 00—1 50, 180°	6/viii.		Full correction ordered.
35	F.	37	Fingers, 2 m.	O.D.—4 00—10 00, 180° O.S.—0.50—2 00, 180°	6/xxxvi. —6/viii.		Myopia not corrected.
36	M.	55	O ² —5/lx.	O.D.—5 00—2 00, 155° O.S.—11 00	6/xxiv. +6/lx.	Post-staphyloma, O.S. old trachoma.	Full correction ordered.
37	F.	35	5/lx.	O.D.—10 00—1 50, 180° O.S.—5.50—0.25, 180°	6/xxxvi. 6/vi.	Post-staphyloma.	—9 00 ord. for constant use.
38	F.	52	?	O ² —20 00 O.D.—10 00—5 00, 180°	Finger, 3 m.	O.D. degeneration and vitr's opacity. Macular retinitis from electric light.	Ord. No 2 smoked clips for wear over full correction.
39	M.	26	Not given.	O.S.—9 00—7 00, 180° O.D.—10 00	Not given.	Retinal detachment, O.D. recurrent, retina returning to place.	+4.00 added for near.
40	F.	59	Not given.	O.S.—13 00 O ² —18 00	6/xxv. Not given.	Cataract O ² .	Operation. (See report of case.)
41	F.	54	Not given.			External strabismus post. staphyloma O.D.	Full correction ordered.
42	F.	14	O ² 6/lx.	O.D.—12 00 O.S.—7 00	6/xxiv. 6/viii.	Cataract O ² ; choroidal changes and retinal atrophy.	
43	M.	28	Not given.	O ² 13 00	Improved sl.		

—1.00, 90°; L.—17.00, for distance and occasional use, and for the near was ordered, R.—16.00—1.00, 90°; L.—13.00; for constant and near use. With these, to this date, she has had satisfactory vision and use of the eyes.

An example of the pursuance of vocation in high myopia without refractive correction, the patient refusing it, was the following:

50°; L.—6.00—2.00, 130°. Reading glasses were later ordered, R.—4.00, L.—4.00—2.00, 130°, which were, as well as the other lenses ordered, asserted by the patient to be of no use. She has been under observation about every two years on account of recurrent deafness from inspissated cerumen and has tried no other glasses but gets along well in her business as head seamstress of a large department store and re-

fuses to try further correction of the refraction. In this case the patient prefers to utilize the blurred large images rather than the clearer smaller images given by correcting lenses, and as the myopia has not progressed during the dozen years she has been under observation, she has learned to adapt her blurred sight to her vocation and is otherwise a healthy woman. This is one of the few cases in which refractive correction may be dispensed with.

In the following cases the crystalline lenses were removed by operations:

CASE 1.—Miss J. L., aged 20, born in Norway, resident of Manitowoc, Wis., recommended by Dr. J. F. Pritchard; came to the office July 6, 1897. She had worn several pairs of glasses on account of shortsightedness, but had received no satisfaction on account of the eyestrain which occurred when she wore them.

Family History.—Father had good eyes, died of yellow fever in middle life; mother living and in good health, has always had weak eyes, but never worn glasses, has had only the one child.

Personal History.—Patient had pneumonia at the age of 2 years and again at 11, has never been strong and is now anemic, has always complained of weak eyes, has found it very difficult to study, has been very nearsighted since adolescence, has been employed as house servant.

Examination showed a high degree of myopia with well-developed conus in both eyes; no opacities of vitreous; ophthalmometric measurement showed corneal astigmatism R.—2.75, 90°; L.—2.25, 105°; the refraction was R.—17.00—2.75, 180°; L.—16.00—1.50, 180°; for which the following correction was given: R.—6.00—2.50, 180°, V.=6/xxxvi; L.—14.00—1.25, 180°, V.=6/xxxvi; reduction of 4.0 D. from spheres for close work was given. These glasses were better worn than those which she had been wearing, but she was unable with them to follow up her ambition to become a dressmaker.

Operation for removal of the lens was advised June 15, 1898, accepted, and patient sent to the hospital. Following day, discission of right lens capsule under holocain anesthesia and atropin mydriasis; but little reaction. July 2, 1898, a second discission was done which caused considerable reaction, although the patient was allowed to go home. July 14 she wrote she had great pain, anterior chamber shallow, lens decidedly swollen.

July 26 she came to the hospital, lens greatly swollen, disintegrating and bulging into anterior chamber; tension +2; lens matter was removed by linear incision under holocain anesthesia. A clear pupil immediately resulting. Further course was uneventful.

September 16 ophthalmometer showed corneal astigmatism in the eye operated on of 2.50, 105°. With +1.00—+2.00, 115°, V.=6/xxiv; with addition of +3.50 sphere, Sn. 1.0 was read at 0.50.

September 17 the effect of the operation having been satisfactory in the right eye, a discission was done on the left lens capsule which at first was followed by no reaction, but two weeks later the lens became so much swollen that tension and pain occurred, so that it was extracted October 1 by linear incision, which was followed by clear pupil. Further course uneventful.

November 15 a secondary operation was done on the capsule remaining in the right eye. At this time the ophthalmometer showed corneal astigmatism for the left eye 4.25, 75°. The refractive condition was R.—1.00—+2.00, 115°; V.=6/xxiv; L.—2.00—+3.00, 75°, V.=6/xxiv. With these she has binocular vision and with the addition of +3.50 spheres, for the near point, can read Sn. 1.0 at 0.50.

Patient has been seen or has written several times since and expressed herself as being very well satisfied with the improvement of vision and with the increased use of the eyes which she has obtained through the effect of the operation. Under date of Dec. 21, 1898, she wrote us "that she could see first rate in the distance but not so well near by." It may be that readjustment of the reading glasses will satisfy her more

completely. There has been no tendency toward any other complication than that from the excessive swelling of the lens and to this date the eyes are in very much better condition than before the operation.

Later the patient returned to the office complaining of "black spots" before the eyes, especially the left. Vision with correcting lenses was 6/xv, R. and L. Ophthalmoscopic examination showed a disseminated choroiditis, most marked in the left eye—probably a result of the pathologic condition present before extraction of the lens. Visual field contracted in both eyes. The patient was given an alternative and advised to use the eyes as little as possible for near work. She has since been lost from observation.

CASE 2.—April 28, 1900, Sister F. (a nun of Notre Dame Convent), aged 40; German descent, had been a nun for many years; high myopia and astigmatism, was wearing —11.00 spheres in both eyes fitted by local oculist; had had many pairs of glasses but had received no satisfaction on account of the accompanying eyestrain. Full refraction was R.—15.00—3.00, 180°; L.—12.00—1.50, 180°, which were ordered for her and likewise weaker pair for near use, but she was unable to wear any, preferring to do without glasses. Operation for the myopia was suggested and accepted, discission being done on the lens of the right eye May 18, 1900, and repeated six weeks later and subsequent discission of the capsule being made at the end of three months from the first operation when examination showed the eye to have the following refraction; R.—1.00—+1.25, 90°, V.=6/vi; October 27 discission was made on the left eye, and this repeated on Feb. 27, 1901, for opening of the capsule; April 30 the refraction of the right eye remained the same, while the left took +3.50—+1.50, 90°, with which V.=6/vi; +3.00 being added to this for the near gave comfortable reading vision. Aug. 26, 1901, there was no change in the glasses and the patient said she could see double with the left eye, which was evidently due to a strand of the capsule almost vertically across the pupil. This was discised, the irides were perfectly mobile to light and accommodation, the visual field was enlarged and the patient had satisfactory and clear vision.

CASE 3.—Oct. 22, 1902, Sister R. (Dominican nun), aged 54, high myopia with cataractous changes in both eyes which had been going on slowly for four years; there were vitreous opacities and in both eyes myopia —18.00 D., for which she was wearing —10.00 D. spheres, but without satisfaction; had been unable to read for a year, and had consulted a number of oculists. We advised extraction of the lens, and October 29 discission was first made on the right eye, the lens being found to be hard and quite movable; November 1, simple extraction of the right lens was made, the pupil being left clear and round. November 25 there was thick secondary cataract, which was discised December 21. The refraction on December 22 was R.—1.75, 180°, with which V.=6/xxii, and with +3.50 could read Snellen 0.25 at 25. For some time after the extraction she had purple vision, which entirely passed away. Jan. 1, 1903, simple extraction was made on the left eye, which was perfectly normal, but was followed by considerable hyphemia, the bleeding of the iris persisting for over three weeks, but finally becoming resorbed, and as the patient had good candle field and could count fingers, at this date discission of the capsule was made, which, on March 7, gave vision 6/xxxvi with +2.00. March 25 R.—50—+1.75, 180°, V.=6/xii; L.—0.50—+2.25, 180°, V.=6/xxiv, with +3.50 she could read Sn. 1.50 at 25, R.—2.0 at 25, L.; glasses ordered.

The results in all three cases have been most gratifying to the patients and the operators, despite their complicated course. In all cases we obtained the advantages which were shown in the paper read Feb. 10, 1899:

(1) Increase in the visual acuity; (2) enlargement of the retinal images; (3) enlargement of the visual field; (4) increased range for near work; (5) the wearing of light lenses instead of heavy strong spheric lenses, in a combination which permits of clearer and less distorted retinal images; (6) the pupil being brought

nearer the retina the eccentric visual rays are more excluded; (7) and most important, the more extended use of the eyes obtained by the patients; in all cases a new world having been opened to their view. Detachment of the retina has not occurred in any of these cases, and even if it should happen, the German statistics show that its occurrence is only in 5 per cent., and this is the percentage of cases of high myopia in which detachment occurs without operation. We will repeat the résumé given in our previous paper, which we have had no occasion to change:

RESUME.

1. Surgical treatment of myopia should be limited to those cases over —12.00 D. who suffer great inconvenience from their correcting lenses. The ideal cases for operation are those of —17.00 to —18.00 D.

2. The operation is mainly indicated in young adults.

3. Cases having active disease and changes in the ocular structures, such as progressive myopia, chorioiditis, fluidity of the vitreous or detachment of the retina are not applicable.

4. The dangers of operative interference are more than counterbalanced by the results to be achieved, which are mainly, increase of visual acuity and of the visual field, and more extended use of the eyes which accompany diminishment of the refraction.

THE CAUSES, PREVENTION AND MANAGEMENT OF MYOPIA.*

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In presenting this subject for consideration, I feel that it is neither fitting nor just that I should discuss every phase of it. It is my purpose, however, to draw your fire, and in this way to have the subject thoroughly ventilated.

In the beginning, permit me to say that I shall discuss the management of myopia in those who are under the presbyopic age, for I conceive that it is during this period that we are confronted by the serious problems in the management of the shortsighted eye.

The initial proposition which I wish to set forth is: that the condition of emmetropia is the normal and natural refractive condition of the human eye. It is true that infants, as a rule, are born hyperopic, and, therefore, it must be true that if they happen to arrive at the condition of emmetropia, an elongation of the eyeball along its anteroposterior axis occurs.

Emmetropia, therefore, under these circumstances, is an acquired condition. Now, if it is the purpose of Nature that all infants should be born hyperopic, it must be her purpose further either that the growth of the eye anteroposteriorly should cease at the moment at which the emmetropic length is attained, or that the final destination of the eye should be myopia.

Since no thing or condition in Nature is stationary, it follows that constant change in the length of the eyeball is natural, and that the condition of emmetropia is a fleeting and a transitory one. This line of reasoning places our philosophy almost in the realm of transcendentalism, and it is the basis of those who claim that the ideal eye is hyperopic; that emmetropia is a step, an intermediary one indeed, if not the first step toward myopia. I can not accept this interpretation

as a practical basis, and I feel compelled to regard the emmetropic eye as the ideal one to which all eyes that differ from it should be reduced. This conclusion is not strictly logical, but is eminently practical and is necessary in this discussion.

I regard the myopic eye as a vicious, diseased organ with a constant tendency to increase in its anteroposterior diameter. It is likewise more subject to structural changes at its posterior pole than other eyes. It is a part of a reasonable therapeutics, therefore, to prevent the occurrence of myopia, to prevent its increase when it has occurred, or to reduce its increase to the minimum.

As has been stated, the physical cause of myopia is the elongation of the eyeball in its anteroposterior axis. The causes of this can be divided into those which are predisposing and those which are direct.

Permit me first to refer to the direct cause. I think it is safe to say that two theories are held on this point. One may be called the accommodative hypothesis and the other the convergence hypothesis.

Antecedent to the paper of Foerster, which appeared in *Knapp and Schwerger's Archives*, in 1884, the accommodative hypothesis had universal sway; but in 1884 Foerster set forth the reasonable claims of the convergence hypothesis as opposed to the accommodative hypothesis, in explanation of the cause of the development of myopia.

For my own part, I can not see how any one can adhere to the accommodative theory, either on the ground of philosophy or practical experience. In discussing the relative merits of these two theories, Foerster pointed out that if the elongation of the eye were caused by the muscular action of the tensor of the choroid, myopia would carry with itself its own infallible and invincible remedy; for the simple reason that work demanded of the accommodative apparatus decreases as the myopia increases. All this ceases the moment we look for the origin and increase of myopia in the excessive convergence of the visual axes. As the nearsightedness increases, the convergence of the visual axes increases, while simultaneously its claims on the tensor of the choroid decreases, which is practically the corollary to the initial proposition.

The persistent increase of myopia the moment it has attained a relatively high degree harmonizes, therefore, precisely with the increased angle of convergence. Foerster discarded the accommodative theory, and plainly pronounced himself in favor of the convergence hypothesis. His article contained the histories of a large number of cases which tend to support his views.

In convergence of the eyes for a near point there is pressure on the sides of the ball by the external muscles, and the nearer the object looked at the greater is the pressure. At the same time, there is necessarily a determination of blood to each eye, in conformity with that physiologic rule which demands the presence of a greater quantity of blood during physiologic activity than during physiologic rest. Unquestionably, then, these conditions might reasonably tend to produce myopia.

We are, perhaps, in some respects indebted to Von Graefe for the accommodative view of the cause of increase in myopia. He observed that in the effort to accommodate there occurred an increased pulsation of the retinal veins. He reasoned from this that the active condition increased interocular tension and thereby conducted to increase the length of the ball.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

That the eyeball itself should be increased in length by the act of accommodation in which there is a pull from the front on the back of the globe by an interior structure, is to me as unreasonable as that a man should be able to raise himself from the ground by pulling on his boot straps. I, therefore, accept the convergence hypothesis as the only reasonable one extant for the direct cause of increase in the length of the eyeball; and it is on this basis that I purpose to treat this subject.

It has been stated that the majority of eyes at birth are hyperopic. I think it is not straining a point to say that all eyes that are not macrophthalmic are hyperopic at birth. If the condition of myopia is to arise in these eyes, of course the condition of emmetropia is to be attained first.

Myopia rarely occurs in very early life; very rarely, indeed, does it occur under five years of age. And, in fact, I believe it can be said that in a large majority of cases it occurs after the child has commenced to use its eyes at school. The active study involves convergence of the visual axes; but I do not believe for one instant that this act alone will produce myopia. This reflection leads me to consider the predisposing causes of myopia.

I fancy no one will deny that myopia is particularly apt to occur in childhood after one or more of the exanthemata. I think scarlet fever and measles can be cited among these as claiming the largest number of victims. Subsequent to these diseases, the vitality of the patient is very much lowered. The entire muscular power of the body is diminished and, I think, particularly the accommodative power. The natural impulse to convergence degenerates into an effort. Along with that comes the congestion of tissues whose vitality has been weakened.

Most children are inclined to hold their books nearer than is necessary, and the younger the child, the nearer is the book apt to be held. The squeezing of the lateral muscles supplemented by congestion of naturally yielding tissues incident to childhood, fulfills the necessary conditions that favor the increase in the length of the eye. I cite the exanthemata because they, I believe, are the most frequent of the predisposing causes of myopia in childhood, and I cite them as types. Similar causes will produce similar conditions.

It is an accepted fact that heredity is a predisposing cause in the development of myopia. If a mother or a father in a family be myopic, and there are several children, myopia is most likely to develop in one or more of them. And it appears to be a fact, in my experience, that the mother is more apt to transmit myopia than the father.

Illumination and a proper text for books may be cited here. In schoolrooms the desks should be so arranged that the light, if possible, should always fall from the left, for obvious reasons. Moreover, the inclination of the desk should be such that the visual lines from the eyes when the head is held in almost an erect posture should strike the plane of the desk at right angles. This will obviate and possibly remove the habit so many children have of bending over their books.

This leads me to mention the importance of posture. The head should not be bent; it should be held almost erect; and the book, if it is read in the hand, should be held in front of the eye, and very nearly on the same plane as the eye.

The character of the illumination by night I conceive to be of the greatest importance. I can not con-

demn too strongly the use of the unfrosted electric bulb, which permits the eye to see the carbon wire. This, under all circumstances, will produce an after-image which is wearisome and irritating, and produces congestion of the entire ocular structures. If the electric bulb is used, and the bulb is within the field of vision, it should be at least frosted so that the carbon wire can not be seen.

I also desire to register here my condemnation of the Welsbach white light, which produces an exceedingly fierce light, in which I can not fail to detect some of the blue elements of the spectrum. This light is to me exceedingly disagreeable and produces distinct discomfort when used as an illumination for reading.

The best illumination for study, in my opinion, is the so-called German student's lamp, or the Argand gas burner, over which a green shade is placed. The source of illumination should be toward the left of the individual and below the level of the eyes, so that the light is reflected on the paper and again reflected to the eyes.

The slightly yellow light of the oil lamp, and even the Argand burner, give a wave length which is apparently grateful to the eye; and the further it is from the red end of the spectrum, without becoming green, the more grateful it appears to be.

The characteristic text of our schoolbooks and other books is gradually becoming larger and the linear spaces greater. There is to-day no longer any need or necessity for the small forms of print, and it will be an advantageous thing for the human eye when they have been relegated to the historic past.

I firmly believe that the high percentage of myopia in Germany is due as much to the universally abominable illumination there as to the German type. Luckily, nowadays, a large number of the German scientific books are being printed in the Latin text, and if the homes of the people could be illuminated so well even as the homes of our poorer classes, I believe there would be seen a diminution of myopia in Germany in the near future.

As a matter of course, an attempt to read in a reclining posture is a frequent cause of the increase of myopia. In this position there is the greatest possible strain on the lateral muscles.

Any general systemic condition which is inclined to cause congestion of the head tends to favoring the production of myopia; eminently, for example, constipation; and in early childhood this irregularity should be carefully watched and abated.

Owing to the vigilance and wisdom of our surgeons in this country, much has been done to prevent conditions at school and in home life which lead to the production of myopia in our children. A continued crusade along these lines will effect still more beneficent results.

Heredity, however, is harder to be combated, so far as it itself is concerned. But it behooves every intelligent surgeon who has under his care children with this predisposition to lay down the most rigorous rules for the care and conduct of the eyes of such children.

During convalescence from any form of sickness, children should not be permitted to go to school until all symptoms and signs have disappeared, and until they have regained their former strength and vitality. Even then their study should be graduated in quantity, and the number of hours of study should be cut down.

In this connection I can not refrain from condemning that which is so prevalent to-day: our schools,

namely, the making on children of demands inconsistent with reason and their ability, so that by the time a girl or a boy retires for the night, she or he has in one way or another employed the eyes from eight to twelve hours a day. Physicians should instruct parents and families in this matter; and the sight should be spared at the expense of useless and superfluous information. A fair amount of knowledge and perfect eyesight is preferable to extraordinary knowledge with strained eyesight and amblyopia.

The matter lies more in the hands of the general practitioner than in those of the specialist, for it is to the latter that the victim first comes.

Let us, then, assume that myopia has arisen in a child under the age of 15 years. What course should we pursue? So far as the correction of the refraction is concerned, three courses lie before us: the total correction of the myopia, the under correction, or no correction.

The total correction of this error is demanded on the convergence hypothesis, and is directly contraindicated on the accommodative hypothesis. Conversely, the under correction of the error or its non-correction is demanded on the accommodative hypothesis and contraindicated on the convergence hypothesis. Which one is to be pursued? It is fair to assume that that treatment is the best which is dictated by reason and fortified by statistics and authority.

I have already declared myself a distinct believer in the convergence hypothesis, and have given the reasons for my belief; therefore, by virtue of opinion I am compromised to the convergence hypothesis and the treatment by full correction. I shall not consider the question of non-correction at all. It appears to me that sufficient statistics have been compiled even at present in favor of the convergence hypothesis to demand the earnest attention of those who oppose it, if not to bring conviction, as to its correctness. The weight of authority, I believe, to-day is in favor of full correction. In the Heidelberg Congress of 1901, the majority of those present spoke in favor of full correction, and it is my ardent desire that a full discussion of this important subject should set forth the views of all those present. Dr. Edward Jackson has presented to this Society the result of his investigations along this line as far back as 1892. He reported the histories of 62 cases treated by full correction—the average period of observation for each case being about $5\frac{1}{2}$ years. In these cases there were 123 eyes, one being blind with congenital cataract. During the above-mentioned period of time, 93 out of 123 eyes remained practically unchanged in the matter of refraction. In 10 eyes there was an increase, .50 D.S.; in 3, the myopia was diminished, .50 D.; in 13, the myopia increased more than .50 D., the average being 1.5 D.; in 4 eyes, the myopia was diminished more than .50 D., the average being 1 D. The visual acuity diminished in 6 eyes to a very slight degree; in 16 the visual acuity was markedly increased, and in a few it was doubled. These statistics have latterly been supplemented by others equally striking.

Over against these let us place those of Schreiter, Roscher and Meyerhof, in uncorrected or under-corrected myopia. Their patients were mostly under 20 years of age. Schreiter found less than 21 per cent. stationary in an average of 6 years of observation. Roscher found 39 per cent. of non-increase and Meyerhof 38 per cent. The latter two had their patients under observation for about four years. If one compares

these statistics with those of Jackson, in which 75.6 per cent. remained stationary, such figures will carry their own weight and need no support.

These facts are supplemented forcibly by the statistics of Pfalz and Heine, presented at the Heidelberg Congress in 1901. The statistics presented by these men were overwhelmingly in favor of full correction. Fuchs, von Hippel, Axenfeld, Uhthoff and many others spoke in favor of full correction. When we remember that the former treatment of under correction or no correction of myopia found its greatest supporters among Germans, the incident becomes singularly significant.

Knapp has expressed himself in favor of full correction of myopia when there is good vision and no fundus changes present.

Over against this weight of evidence stands the views of Koenigshoefer, who is a strong advocate of under correction.

Liebreich has expressed some original views as to the physical cause of myopia. He considers it due to increased interpupillary distance caused by a separation of the orbits. He claims that this osseous malformation produces a disturbance in the correlation between accommodation and convergence which, of course, causes an increase in the angle B. He thinks total correction achieves good results only in those cases in which the angle B is either very small or normal.

It is safe to say that sufficient statistics have not been brought forward in this matter, and herein is a loophole for the disciples of under correction. It is hoped that the interest in the matter will be so stirred that careful statistics of all cases of myopia under treatment will be compiled, and the principles at issue be settled beyond peradventure.

Widmark of Stockholm has called attention to the influence of corneal opacities in causing an increase of myopia when it is present or its production when astigmatism is associated with the opacities. He has observed, however, that the production of myopia or its increase generally occurs in that eye which is free from opacities, and in case there is astigmatism in each, he has observed that myopia arises in the less astigmatic eye. While he favors the convergence rather than the accommodative hypothesis, he conceives that myopia produced by opacities of the cornea, as above described, can not be explained on the convergence hypothesis. It appears to me that his observations were strong proof in favor of the convergence hypothesis. The opacities in the cornea induce the patient to hold the work nearer to the eye; this perforce increases the convergence of the visual axes and excessive congestion of the better eye—ideal conditions for the production of myopia on the basis of the views expressed in this paper. His conclusions seem to me to negative his reasoning and his observations.

Foerster concluded that three things were necessary in correcting myopia; the first was a full and proper correction, the second, the proper position of the eyes in work, and the third, the use of abducting prisms to force the near point outward in binocular vision.

The first two propositions are eminently reasonable, but the third I consider supererogatory, and this latter suggestion of his is characteristic of all those who propose new ideas. It seems reasonable enough that there should be a full and complete correction, but the use of abducting prisms points, in my opinion, lies in the direction of overdoing the matter.

For my own part, I regret I have not kept my records carefully enough to enable me to back my opinion, concerning the full correction of myopia, by statistics. Yet, after all, statistics are in many ways deceptive because it is practically impossible to collate uniformly similar cases. The weight of the evidence, in my experience, has been overwhelmingly in favor of full correction, though I do not think the rule can be said to be hard and fast.

I commenced to give the full correction in myopia in 1886, and I have continued to do so under proper conditions to this date. It requires no patriarchal experience to remember the day when the full correction was never given and when even the myopic laity entertained definite views on the subject. To-day at times one meets patients who still give some evidence of their attachment to those views.

It has frequently happened to me to be compelled to combat these views in the mothers and fathers of children—so strongly and widely was the old idea of under correction promulgated by the elder practitioners. It is not possible for me to say to what degree I correct myopia in all cases. Each case I consider a law unto itself. I have known some people, even adults, who accept and wear with perfect ease for distance, glasses which would not for a moment be tolerated by another with an equal error.

Suffice it to say, I correct myopia in children to the limit, if possible, and I force them to wear the glasses for reading and for near work. I consider this necessary in low degrees of myopia as well as in high. Now, I do not mean that every individual should be forced to wear the full correction glass which is indicated by retinoscopy or the direct method, but he should be made to wear the weakest glass found by the test case with which he gets the best vision with the most comfort; this I consider full correction.

It is obviously absurd to force on a patient a correction which is estimated by objective methods of examination alone. The functional method with the test case is the crucial test, and its decision should guide us. There must, however, be a reasonable relationship between all methods.

In those cases in which the degree of myopia in the two eyes differs considerably in amount, it is my custom, as a rule, to give the glass which corrects the less myopic eye to both eyes. I find that this is uniformly more agreeable than correcting each eye separately. This can hardly be said to be full correction in a true sense, but it amounts to that, and is in the way of my rule, viz.: the weakest glasses which give the best vision with the greatest comfort to both eyes.

Of course, the far point should always be thrust as near as possible to infinity, i. e., to say to twenty feet. But in the majority of cases it is not well to give the stronger glass if a weaker glass will give the same visual result, because the sharper visual image furnished by the stronger glass causes the patient discomfort. I do not believe that the cause of this lies in the increased accommodation. I believe it is an inherent quality in some retinæ. It is obvious, then, that the weakest glass which gives the best vision compatible with comfort is the strongest glass which will be tolerated. I am accustomed to ask the patients if the glasses feel "soft." This word seems to convey the proper idea to them. There seems to be a uniform conviction that full correction ought not to be worn where fundus changes, particularly choroidal ones, are

present. For a long time I held this to be an exception to my views of full correction, but one case which I shall relate has caused me to give as full a correction as possible in many of these cases.

A woman, aged between 35 and 40, had a high-graded myopia with extensive posterior staphyloma in each eye and marked changes at the macula in the left eye. She had been under the care of a surgeon in a neighboring city, who held the old views about the correction of myopia. He cautioned her against any correction at all, but gave her a weak pair of lenses with which she could see very little better at a distance than without any, and told her to read without glasses. She could not enjoy the pleasures of reading, nor the theater, nor could she go about the streets by herself without great danger. This had persisted for at least ten years. The loss of sight, and particularly detachment of retina, was held up to her as a check on her ambition to be more comfortable, and so she sat and held her hands. In her right eye she had 20/30 vision with -11 D.S. $\ominus$ -1 S.D. with ax. 90° ; in her left, 20/200 vision, with -11 D.

After the use of atropin for a week, I gave her the above correction for distance, and at the end of another week I gave her a reading glass; in the right eye, -7 D.S. $\ominus$ the cylindrical correction, and in the left, -7 D.S. She tolerated both glasses well and has worn this correction for five years. At first I demanded she should increase her reading gradually in this wise: the first day she was to read fifteen minutes, the second 30 minutes, the third three-quarters of an hour, and so on until she had attained two hours of steady reading. I was rigorous in this particular, and I customarily give these instructions to cases in which there is a high degree of myopia, and in which the full or the best possible correction has not been worn before. This lady, emboldened by the ease and comfort with which she sees far and near, has regularly taken each summer since a course at a summer university. Her whole method of life has been altered, and she is grateful. She was of uncertain age and so I gave her a reading glass. If she had been ten years younger I verily believe she would have accepted the same glass for distance and reading. Before the correction she was wont to have photopsies and *muscæ volitantes*. These symptoms practically disappeared under correction.

I am inclined to think that some lay too much stress on the matter of choroidal changes in the correction of myopia. I believe it is always well to proceed with such cases cautiously, and it is my custom to use a mydriatic for some time before prescribing, but I do not believe that the tension on the choroid necessarily caused in the act of accommodation has so serious an effect as is ordinarily believed. This case supports my views on this point fully, and I have had many similar ones in my practice.

As to the use of a mydriatic, I hold that it is well in all cases of choroidal lesion to employ atropin sulphate, and when the eyes have been kept in a condition of physiologic rest for an appropriate time to discontinue its use, and give the correction according to the principles I have set forth.

As to the use of homatropin, it is my custom to use this agent in simpler cases in which there is spasm of the accommodation or the asthenopic symptoms are particularly marked. I believe that the use of a mydriatic in all cases is not necessary. I also believe that a skillful ophthalmoscopist can, in the great majority of cases, adjust the glasses correctly without its use. *Per contra*, I believe the use of homatropin in every case will do no harm, and will lead more nearly to a correct adjustment. In some way I conceive that the constant and uniform use of homatropin is a refuge for the unskillful.

It is always my custom to make first an approximately quantitative diagnosis with the skiascope, to cor-

roborate it by the direct method, to scour the fundus with the indirect, to use the ophthalmometer next, and to hold all these methods in check by the test case. The correction by the skiascope alone is not practical, in my opinion. I place very little faith in this method alone, as a quantitative test. It takes too much time, is wearisome to the patient and the surgeon, and is open to other objections which it is not my purpose to set forth here. As a qualitative and an approximately quantitative method of examination, I consider it of the greatest service, but I never correct by it alone, nor could I rely on it against the findings of the other methods.

As a means of discovering the approximate axis of astigmatism, I have quite as much faith in it as I have in the ophthalmometer. In clinical work, I am accustomed to use Placido's disc, but I hold behind the aperture in one hand a + 4 D. spherical glass. As a rapid method of diagnosing the approximate axis in astigmatism, I consider this is exceedingly useful.

I conceive that in the correction of myopic astigmatism, as in spherical myopia, the weakest glass which affords the best vision, consistent with comfort, is the correct one to give.

I think, then, it can not be said that all cases of myopia, whether spherical or astigmatic, can or should be fully corrected, and in using the term, "full correction," or in advocating the principle, I desire to be understood as advocating the use of the weakest concave glass which gives the best vision and is, at the same time, compatible with the comfort of the patient. This, it will be observed, is distinctly adverse to habitual under correction, or no correction at all, and is consistent, in my opinion, with the principles involved in the convergence hypothesis.

I think I may sum up my views on this subject in the following manner:

1. Myopia is a condition in which there is an increase in the anteroposterior diameter of the eyeball. This condition is, except in very rare cases, acquired. It is a distinctly vicious process, and in the great majority of cases tends to increase. It should, therefore, be regarded as a disease. It usually begins in childhood.

2. Its causes may be divided into predisposing causes and a direct cause.

3. (a) The predisposing causes are, in general terms: Heredity, naturally lax conditions of the eye tunics in certain individuals; the injudicious use of the eyes after sickness, usually in children, after the exanthemata; bad illumination, improperly placed illumination, incorrect position in the act of reading; the existence of refractive errors, generally astigmatism, which is uncorrected or improperly corrected; corneal opacities; any systemic condition which tends to produce cerebral congestion, for example, constipation.

- (b) The direct cause is an elongation of the eye on its anteroposterior axis, at the posterior pole, except in the case of corneal astigmatism.

4. When myopia has once been acquired, its increase is directly caused by the pressure on the globe by the extrinsic muscles, due to the convergence of the visual lines toward the far point—the convergence theory.

5. The weight of evidence and reason is distinctly against the accommodative theory.

6. Theoretically, full correction of the myopia is indicated, whereby the far point is thrust to infinity.

7. Practically, this is not always possible.

8. The far point should be thrust as far as possible toward infinity, but, at the same time, it should be compatible with the best vision and the greatest comfort.

39 West Thirty-sixth Street.

DISCUSSION

ON THE PAPERS OF DRs. WURDEMANN AND BLACK AND CLAIBORNE.

DR. EDWARD JACKSON, Denver—No fixed rules can be laid down, in my opinion, as to what cases are suitable for operation and what cases are not, and a very definite opinion on the advisability of operation can not be given in any case until it has been repeatedly seen and studied and the test lenses tried. I have so often seen lenses of 18 and 20 diopters worn with comfort for years that my experience with removal of the clear crystalline lens has been very small. I think, too, that the contraindications can not be stated very definitely, as any rules will have so many exceptions that they will lose the value of rules. Fundus changes are not necessarily a contraindication. If they are so extensive that perfect focusing of light on the retina will not give any improvement of vision, probably there would be no reason for an operation. If the eye is not in a good condition for operation, as having a recent choroiditis, or recent hemorrhages, an operation should not be done at that time. With reference to the vision, we can expect a certain improvement from the effect of bringing the nodal point forward from the retina by the operation; and that becomes a very important indication in cases where the acuteness of vision can be brought up by lenses to 1/6 or 1/8. If you can get vision of 1/6 or 1/8 with the lenses and the operation is successful and the case goes smoothly, there is a probability of bringing up the vision to a point where it will be very useful. Vision much lower than that, however, may be improved so as to be of great benefit. As to the effect of operation on refraction, it may be expected to increase for some months and sometimes for some years afterward. If myopia remains it will be still further reduced and if hyperopia, it will become greater. That corresponds to what occurs in cataract extraction. Diminution of refraction goes on after the changes of astigmatism have ceased. As to the methods of operating, one point should be emphasized; that is the care in making a moderate or small discission to commence with. While the effect of this on some eyes may be very slight and may entail some waiting, it is a great deal safer. I have had to take out for sympathetic ophthalmia an eye that had been lost by an operation for the removal of the lens. While I did not do the original operation, it was a free discission and was followed in twenty-four hours by severe swelling. Of course, if one be prepared to deliver the lens at any time after discission the serious damage may be obviated. Still after acute swelling the eye is not in as good condition for the removal of the lens as when the lens has been allowed to become opaque slowly. If the lens must be removed as soon as possible, it is better and safer to remove it without any discission whatever, even though a subsequent operation has to be done.

DR. A. B. HALL, Chicago—In my clinical work about 38 per cent. of the cases are myopic, as many of them are Russians and Poles. I have ten cases of operation that I have not yet reported in which the results have been very good. Where Dr. Black gives the percentage he forgets that many cases of post-operative prolapse do not go into the records at all. I saw six cases last summer of postoperative prolapse that were not reported and heard of six others. Axenfeld, in a personal letter, says that he is not satisfied with the reports for the first six months, but is inclined to wait for one and a half or two years, as he had one prolapse two years after operation. I think we must accept statistics with a little less cheerfulness than they are presented to us.

DR. H. D. BRUNS, New Orleans—In about 2,500 cases of refraction I have operated seven times for the removal of the lens in high myopia. I reported three of these in the *American Journal of Ophthalmology*, 1898 and 1899, under the heading of "Cases from the Clinic." It seems to me that the greatest value of the operation is prophylactic. There is little chance of keeping a very high myopia in a young person stationary and we

have the greatest opportunity to rescue these individuals from helpless middle age, with the oncoming of cataractous changes later; and we all know how unfortunate operations on such cataracts are. All of my operations but one have been in patients under 18 years of age; that exception confirms what was said a moment ago about certain pathologic changes not being a contraindication. The discission was done to relieve the dull, incessant pain of a highly myopic eye with posterior staphyloma in a woman of 35. I operated in 1897 and the patient some years afterward was entirely free from pain, the disease had made no further progress and she was well satisfied with the result. I agree fully with what has been said about the moderateness of the discission and I think it holds true of all discissions. It is well to make a small discission and wait to see how the eye will tolerate it. I prefer safety with length of time to the loss of a well-seeing eye which I have counseled the patient to have operated on for his future good. That makes the loss of an eye a calamity indeed. The only case in which there was a bad reaction was one operated on by one of my assistants, which had to be extracted. The lens was too much broken up in the discission. A month of iridocyclitis followed. The patient was a little child 12 years of age with good eyes, except that she had 14 diopters of myopia, and I experienced such a bad 30 days that I have never since been tempted to try to gain time at the expense of absolute safety.

DR. MELVILLE BLACK, Denver—It seems to me that Nature makes a strong effort in high myopia toward prophylaxis that should be recognized. There is a tendency in all these cases to divergence due to inability of the interni to swing the eyes in. It would seem to me that it is well to recognize this effort on the part of Nature and not try too much to overcome it by giving the patient binocular single vision. I operated recently on a case with 20 diopters. It will not be my policy to operate on the other eye, for I prefer to have in this case as much disassociation of the eyes as possible. It will be impossible in this case for the patient to use the eyes together. I have given nothing for distance over the eye operated on, but have corrected the other eye by a minus 14 diopter lens, which can be worn for near work; thus the patient uses the eye operated on for distance and not the eye operated on for near work. I think that will tend to reduce the probabilities of increase in the myopia.

DR. J. F. FULTON, St. Paul—I am so pleased with the results of discission that I do not see why extraction should ever be attempted. It is wonderful how rapidly the lens will be absorbed. Success consists in being extremely careful in the original discission. After that you can tear up the anterior capsule freely. The few cases I have operated on have been extremely satisfactory.

DR. H. MOUTON, Ft. Smith, Ark.—I believe in the full correction of myopia, but in cases in children we must secure the coöperation of the parents. Many parents do not do enough close work to understand or appreciate the insistence on suitable light and places of study for the children. It is difficult to get them to follow out our directions properly.

DR. OSCAR DODD, Chicago—For the last few years I have been correcting my myopic cases in full and find that they are not only more comfortable, but, in following them up and having them come back for examination every six months, I find that nearly all remain stationary, while those cases I have seen which were not fully corrected made much greater changes. One point to be insisted on, I think, is the careful correction of the astigmatism. I had a case of high myopia not very long ago a man 39 years of age, that had been refracted by an oculist ten years before. In the course of a year he lost his reading glasses and had worn those intended for distance, —20 D., all of the time. I found that he took a —22 D. in one eye and —24 D. in the other to see in the distance sufficiently well to read the names on the street cars. I advised removal of the lenses, but at his age I was careful about promising a good result. He preferred to get along with an occasional use of the distance glasses.

DR. G. E. DE SCHWEINITZ, Philadelphia—In all important particulars I agree with Dr. Claiborne. I believe that young

persons under 25, with good vision and a moderate degree of myopia (under 6 D.) should wear the full correction of their refractive defect constantly, if accommodation is ample and no signs of fatigue are present. The same rule is applicable to patients until they reach those years when accommodation must necessarily receive help, or when examination shows that the amplitude of accommodation is not equal to the necessities of the patient's life. I agree with Dr. Jackson that full correction is the object to be attained for young persons with normal visual acuity and binocular near vision, no matter how high their myopia, provided the lens selected shall not be an over-correction when brought close to the eye. I fully understand that there are many exceptions to these rules, and that each case must be studied and decided on its own merits, but other things being equal I consider it a positive misfortune that when young people first come for the correction of their myopia they are so frequently given the so-called under-correction, because once under-correction having been given, it is difficult to alter it to a full correction, and a full correction, within the limits already stated, is the best safeguard against the increase of myopia, when worn with proper regard to the hygiene of the eye and the body generally. My experience in the removal of the clear crystalline lens for the relief of high grades of myopia has been a limited one, but entirely favorable. I have always operated by discission first, followed by extraction. The really brilliant results which I witnessed in Dr. Bruns' clinic to-day have well-nigh persuaded me, however, to pursue his method of repeated discissions.

DR. LEATUS CONNOR, Detroit—All school children are subject to about the same conditions, and yet only a few develop myopia. Why is it? My explanation is that some unknown factor of nutrition exists in the eyeball in these particular persons by which the disastrous results develop. We should, of course, endeavor to remove these so far as we can.

DR. ALLEN GREENWOOD, Boston—I think these cases should always be refracted under the complete mydriasis of atropin.

DR. JOHN E. WEEKS, New York—Although the accommodation theory may not, perhaps, be logical, certain cases come before us that are difficult to explain in any other way. I have in mind a family of five, the father and four children. The father had a myopia of 10 diopters with astigmatism of about 2.50 D. in each eye, with some floating opacities in the vitreous. The oldest son had a myopia of about 5 diopters with astigmatism of 1.50; the child next in age had a myopia of about 2 diopters with some astigmatism; the third, hyperopic astigmatism of 1.50 to 2 diopters, and the fourth, hypermetropia with astigmatism. In each case there was progressive posterior staphyloma. The error of refraction was corrected as completely as possible. This was about seven years ago. The father died about three years after the examination was made and his myopia had not increased. The children have been under observation ever since, and with the exception of about .50 diopter in the oldest boy the refraction has not changed. This is not an isolated instance in my practice. I have not infrequently found that the correction of the error of refraction arrested the process in cases in which staphyloma posterior or sclerorhoiditis posterior was progressive. Although convergence may be chiefly instrumental I do not believe it is the whole cause. As to the removal of the lens in high myopia, I have operated a number of times; I shall hereafter operate by small discissions at first. I shall do a linear extraction only in those cases in which I am compelled to do it. It is, as Dr. Bruns has said, a great calamity to lose an eye after advising removal of the clear lens. Operation by discission and subsequent linear extraction is safer than primary extraction.

DR. N. M. BLACK, Milwaukee—I thoroughly agree with Dr. Bruns in doing small repeated discissions and not attempting linear extraction unless indicated; one exception, however, can be made, in the case where the lens is becoming cataractous; in that case linear extraction is justifiable. As to operating where there is disease of the fundus I think the patient should first undergo a certain amount of treatment.

DR. J. H. CLAIBORNE, JR., New York—Dr. Thompson taught the full correction of myopia some twenty years ago. I was not aware of that until Dr. Bruns called my attention to it in

a note just now. I thought Forster was the first. As to Dr. Connor's question: I made mention of a case in these words "a relaxed condition of the tissues peculiar to some people." The negro has a characteristic expression for conditions of this kind, "slack twisted people." Such are persons of low vitality who are placed in unfavorable conditions. Some one has suggested that there should be full correction always under atropin. It is clear to me that if you take the refraction under atropin and then without you find a considerable difference. The eye will be more myopic when the atropin has worn off because there is a tonic action of the ciliary muscle that we can not get rid of. I can not accept that proposition as an absolute truism. I have observed a habit growing among ophthalmologists in speaking of "refracting patients," and I want to put myself on record as opposed to it. A patient may be refractory, but can not be refracted. We should eliminate that expression from our nomenclature.

RESEARCH PROBLEMS OF PHARMACOLOGY.*

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The main object of pharmacology is to supply a basis for rational therapeutics. The entire medical profession has always been in accord as to the desirability of this end, but the methods of pharmacology did not at first secure universal recognition. This prejudice against laboratory experiments has now practically disappeared, partly through the advance of medical education and partly through mutual concessions. The modern physician realizes that rational therapeutics can not be based solely on bedside "experience," with its hastily and imperfectly observed and digested data. The phenomena in question are altogether too complex to be understood by such primitive methods. They need to be studied by the most delicate and profound methods over which modern science disposes. This study constitutes a large part of the research problems of pharmacology.

PRACTICAL PROBLEMS.

These problems, which pharmacology must investigate in regard to every used drug, before rational therapeutics can rest on a sound foundation, are broadly as follows: The immediate and late, the direct and indirect, modifications produced by varying doses of the drug in every structure on which it may act, intentionally or accidentally; these actions as manifested in disease; the cause of these actions; the fate of the drug in the body; the chemical constitution of the drug; the effect of the constitution on the action; the possibility of modifying the constitution of active drugs and with this their action, with consequent improvements in the drug; and, finally, the effect of the simultaneous presence in the body of this drug with others.

Almost every pharmacologic research deals more or less directly with one or another of these questions, and considerable has been accomplished in this direction. The results are, however, altogether too scanty. To realize how far we still are from a satisfactory solution of these problems, you need only examine critically our present knowledge of even the most commonly used drugs, such as strychnin, and you will see that not one of the above questions is answered as fully even as our present experimental means permit. It is well to recall that we do not even know wherein the members of a pharmacologic group—such as the digitalis group, the

bitters, the cathartics—differ from each other. As a further instance of our limited knowledge of very important points, it must be confessed that we know very little of the late changes produced by drugs and of the reactions which must in many cases follow their actions.

PROBLEMS REQUIRING CO-OPERATION WITH OTHER MEDICAL BRANCHES.

To obtain satisfactory solutions of these problems, pharmacology must undertake, in the first place, a more detailed study of the therapeutic and poisonous actions of important remedies, such as aconite, alcohol, antipyretics, antiseptics, arsenic, caffeine, cathartics, cholagogues, dietaries, digestive ferments, digitalis, diuretics, ergot, gelatin (as hemostatic), hydrastis, iodids, iron, mercury, quinin, strychnin, saline infusions, etc. These should be investigated not only by laboratory experiments, but also on carefully diagnosed and observed cases at the bedside. For this a correct diagnosis and understanding of the pathologic condition are prerequisite, and the slow progress of therapeutics is partly due to the deficiencies in this respect, deficiencies which the leaders in these branches are the first to acknowledge. However, it should be possible, even with the present conditions, to so state the problems to be investigated that the answers should be clear and decisive, and that the results of different observers would be comparable.

It is in this connection, in directing and co-ordinating clinical inquiries, that the older, experienced practitioners could do invaluable service in advancing pharmacologic research. Very great benefits are to be expected from the reorganizing hospitals for this purpose, for there are at present very few hospitals in which the experimentalist can co-operate with the clinician. As an instance, there are very few which have the laboratory facilities to make the most ordinary observations on metabolism; nor have they on their staff any men practiced in such work, or even nurses or orderlies who are trained in collecting the material properly. The limits of the thermometer, microscope, hemoglobinometer, hemocytometer and thermostat; and of test tube and burette work, have been pretty well exhausted. To make real advance, the hospitals must have added facilities, and must have a man or a staff who can devote themselves to the scientific work, without distraction by routine duties lying outside of the scientific scope.

This would also give opportunity for applying pharmacology to the investigation of the nature of disease. It must be remembered that both in pharmacology and in pathology we deal with altered cell metabolism. It is often merely a matter of convenience under which science we class a given phenomenon. Toxin-tetanus, diphtheritic paralysis, diabetic coma, and many other forms of disease are strictly intoxications. The methods used in their investigations must be essentially those which have proved so fruitful in the pharmacologic laboratories. All the diseases due to toxins, as also uremia, scurvy, rickets, gout, nephritis, indigestion, etc., need to be investigated in this spirit. This fact is not yet sufficiently appreciated. Natural and acquired tolerance to poisons is another subject in which the pathologist, clinician and pharmacologist can co-operate; but in this field pharmacology is particularly behind. We know less about the mechanism of tolerance in the case of drugs, as morphin, nicotin, alcohol or atropin, than in the case of bacterial toxins—although even here our knowledge is not exhaustive.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

Considerable progress has been made in the way of replacing crude drugs by their active constituents. However, we know but very imperfectly the active constituents of some very important drugs, as digitalis or ergot. Methods should be devised for the practical isolation of these in active and stable form. Other plants, not as yet in common use, may also contain valuable ingredients. The usefulness of active constituents in general could often be greatly increased by modifying undesirable characters, as instability, solubility, rapidity of action, side actions, etc. There can be no doubt that the actions of a drug depend on its constitution, and can be altered with this. Here the chemists do us a great service by modifying the constitution of drugs in almost any manner which we may desire. It is the office of the pharmacologist and of the clinician to ascertain the effect of these modifications. This has been done in many cases to the great advantage of therapeutics. The small book of Fraenkel, "*Arzneimittelsynthese*," gives very interesting proofs of this statement. It does not seem too much to hope that we may eventually be able to dispense entirely with vegetable drugs, and to produce artificially the identical constituents which we now use, and in many cases improvements on these.

This era seems, however, still very distant; we must for some time put up with the disadvantages incident to drugs derived directly from the organic kingdom. But here also great improvements are to be effected, and this offers an alluring field for the scientifically trained pharmaceutical chemist. The present pharmaceutical preparations are, in many cases, far from ideal. They often contain useless and even undesirable constituents, are unsightly, of bad odor and taste, inconvenient and prone to alteration. One of their most unsatisfactory features consists in their uncertain strength. This should be speedily remedied by suitable assay processes, chemical or "physiologic." The subject of physiologic standardization needs thorough investigation to determine the limits of its usefulness, and to establish proper official standards. When reliable assay processes have been elaborated, a great deal can be done in improving crude drugs by cultivation, selecting proper varieties, determining the best season for collecting, etc.—as is now done in the case of cinchona and of the sugar beet. Cultivation should produce a more steady supply of a higher and more uniform quality.

METHODS.

There is no dearth of problems which may be solved by the experimental methods now known to us. However, investigation directed to the improvement of old, or the elaboration of new, research methods constitutes a very useful field of research. Every advance in this direction brings with it large additions to our knowledge, by opening up new problems, or by making research more exact, more easy or less costly.

THEORETICAL QUESTIONS.

I have attempted to lay before you some problems, the solution of which would have an immediate bearing on the questions of everyday practice. Every successful research, in answering some questions, raises others. Every explanation requires further explanation, until we face the question: what is the ultimate nature of the phenomena of life? This, the ultimate question of all biologic sciences, needs to be answered before biologic problems can be said to be thoroughly understood. But just as the science of physics is not rendered useless by the fact that it can not explain the nature of matter or

of force, so the science of medicine is not rendered useless because it has not yet answered its ultimate problems. We can not afford to lay medicine aside until the biologist has finished his investigations. While we are seeking to solve the puzzle of the "ultimate question" we must be content with finding partial solutions to practical questions as they present themselves.

Both lines of investigation are open, and research may be directed either to immediate practical problems, or it may deal more or less directly with the ultimate questions. However, the two are so closely interrelated that every result in one direction aids also in the other. It is, therefore, quite possible to keep both objects in view. This will broaden the work, and will make it more immediately useful. The history of science shows abundantly that achievements in abstract directions are by no means incompatible with the duties of a practicing physician, much less with those of a medical research worker. Pharmacology has taken a prominent part in the investigation of the ultimate vital phenomena, and it holds out peculiar promise in this direction. Its object and scope go to the very root of the matter. It is the experimental chemistry of protoplasm. As ordinary chemistry studies the properties of elements or of simpler molecules by combining them with reagents, so pharmacology studies the properties of the more complex protoplasm (or biogen) molecules by combining them with similar reagents—in other words, by acting on them with chemical or molecular stimuli. The rich variety of stimuli which pharmacology supplies offers a good chance of solving the riddle of the chemical changes which underly stimulation. This requires, however, a more philosophic comprehension of pharmacology than we have at present. Our science consists as yet for the most part of isolated facts without apparent connection. These must be reduced to general laws. We know, in a general way, that drugs act selectively on certain cells. An intimate connection must exist between the constitution of drugs acting on similar protoplasmic structures, and also between the constitution of structures which are affected by a given drug. These connections are becoming dimly perceptible, but require much detail work in the elaboration of a cellular and comparative pharmacology. The modification produced by reagents must be studied by every conceivable method on vital phenomena in their simplest and in their most specialized forms. They are to be studied in their simplest variety, as exhibited in unicellular structures, as the protozoa; and also in collections of cells—in tissues—where the effects are summed up, and consequently larger, but also more complex. They are to be studied in functions of the most primitive type, as in ameba and bacteria, where the functions are simplest in kind, but are complicated by other functions; and they are to be studied in the most specialized form, as in muscle or nerve, where the functions are single in number, but complex in the development which they have reached. We must also study the corresponding modifications in the constituents of protoplasm, particularly in proteids, in organic and inorganic ferments, in toxins, antitoxins, agglutinins, etc.

As these data become known, it will be possible to connect them, and to arrange them into larger and larger groups. We will then have to inquire into the underlying cause of these groups; in other words, into the principles which determine drug action. It is very probable that the grouping will itself throw light on this question. The selective action of drugs may be in part

explained by selective absorption, in part by chemical affinities of the protoplasm. The explanation of both may be largely the same. In either case there is a co-operation of ordinary physical forces, and of other forces which have not so far been reduced to physical terms, and which are, therefore, called vital. The relations of these two sets of forces are interesting problems which find practical application, e. g., in the phenomena of absorption and secretion. We can not hope to make much advance in the study of these vital forces until the part played by the physical forces is understood. When this has been done, the remaining questions will be clearly and simply stated. It may also be expected that the inquiries necessary for this purpose will throw light on the remaining questions, or will at least point out the way for further inquiry.

These are, in broadest outline, the problems which pharmacology has to solve in the matter. It is needless to say that these ultimate problems may and must be also approached by other channels. The chemist must clear up the constitution of proteids, and eventually of living protoplasm; the morphologist must explain structure, the pathologist the phenomena of degeneration and of death, the physiologist must co-ordinate all these data, etc. Indeed, these problems are the meeting place of all the biologic sciences. To insure any conspicuous success in their solution, the investigator must possess a good measure and quality of "scientific imagination" and an extensive acquaintance with the advanced work in the several departments of natural science; he must have a comprehensive, carefully-matured plan of investigation, in which every achievement of research finds a natural place. Very few can have these qualifications. Nevertheless no investigator can be indifferent to these ultimate problems. Every well-ascertained biologic fact, no matter how isolated or insignificant, will contribute to their solution, for these facts constitute the raw material from which generalizations and laws must be built.

PHARMACOLOGIC RESEARCH FOR THE PROFESSION.

My object in laying before you this outlined program of pharmacologic research has been to show you that pharmacology has very many practical and theoretical problems which are capable of solution, and which are worth solving. A physician who wishes earnestly to co-operate to some extent in this research work, will naturally meet some difficulties, and must be prepared to make some sacrifices. But these will not usually be insuperable. There are problems, on some of which I have touched, which demand little except clinical material and accurate—and especially unprejudiced—observation. Here belongs a great deal of preliminary work in comparing the value of drugs supposed to possess equivalent actions, as also observation of idiosyncrasies, of unusual effects of drugs, etc. I may say here that I consider isolated observations of this kind as usually possessing comparatively small value. They acquire importance only when they are collected and examined critically, collated and generalized. I would suggest that the Chairman of the Section appoint expert committees consisting of clinicians and experimentalists to whom such observations could be communicated and who could report yearly on progress. I have already indicated the rôle which hospitals should have in this work. Sooner or later, the intending investigator will recognize the limitations of such empirical observations, and will desire to apply experimental methods. This re-

quires special training, and usually laboratory facilities. Experimental work is, therefore, best begun in an established pharmacologic laboratory, under the guidance of a skilled teacher. This will offer no great difficulty to those physicians who practice in a medical center. One or two hours every day devoted conscientiously to this purpose will suffice for a great deal of research. For those who live at a distance the difficulties are greater, but can be surmounted by spending a few weeks every year in the city. The sacrifice in doing this is perhaps rather apparent than real. In countries in which the public is educated to realize the value of medical research, work of this kind usually redounds in the end to the advantage of the practice of the investigator. I have not sufficient personal experience to say what would be its effect in this direction in this country. But even if we assume that it does somewhat cut down the income, every physician should ask himself whether it is not worth some cost. On undertaking this work the beginner must take care to make haste slowly. A most frequent cause of failure and disappointment is the choice of problems which are too large or too intricate. If the intending investigator has not had any laboratory training, he will do well to either take a laboratory course, if such can be obtained, or to give what aid he can to a more advanced worker, and to pick up some training in this manner. He may then attack some short and simple problem, intended mainly to familiarize him with research methods. The choice of this he should leave to his instructor. He will thus acquire the experience which will enable him to begin on more independent work, preferably along lines suggested by himself; but he should be slow to dispense with the advice and supervision of some more experienced investigator.

The students of the present generation have considerable advantage over the older practitioners, for some amount of laboratory technic is now taught in all the better medical schools. However, the colleges could do a great deal more in this direction of university work by developing the scientific spirit in their students; through the contagious example of research on the part of the instructors; by offering more extensive and more advanced laboratory courses, and by encouraging original work on the part of students. The luxury of laboring at research can not and should not be forced on every student; but the present medical curriculum is so overburdened that even the most willing student can not find time for advanced university work, and is hard put to it to acquire what is strictly necessary to his calling. The only relief seems to be in some system which cuts down the minimum in all branches, but requires advanced elective work along some lines. Such a system is quite simple and feasible in theory; but in practice it is a most expensive method of teaching, since it necessitates a large staff and costly equipment. However, increase of the cost of teaching is a common condition in all progress of medical education. The endowment of medical colleges is one of the most pressing needs of the day, if they are to keep the pace which they have set.

The efficiency of research work could be very greatly increased by more extensive co-operation and organization. Many questions remain unsolved, many good ideas are lost, many good researches come to naught, for the lack of these. The most important and far-reaching problems are too large to be solved by one man, and must be abandoned or only very partially answered,

hand, a middle-aged, or somewhat corpulent woman, with flabby heart and somewhat inelastic arteries. Suppose her to be the victim of some cancerous disease the knowledge of which has worn her out with anxiety and distress, and then let her pass a sleepless night before the operation, going over and over in imagination all the terrible process and making sure that she will die under the anesthetic. Or take your drunken, whisky-sodden dock-laborer, with tissues so steeped in drink that one is almost tempted to believe in the possibility of spontaneous combustion, with cirrhotic liver, fatty heart and albuminous urine. I can not see any parallel whatever between the healthy canine animal and the diseased human animal, nor can I see how experiment on the former will help us with the case of the latter. It is impossible.

Dr. Bodine recently reported two cases of chloroform anesthesia, both patients dying before a drop of chloroform had been administered; simply dying from fear or autosuggestion. The conditions in experimented animals and diseased human beings are widely different. Laboratory research should be continued, but we should accept conclusions with the greatest caution, and whenever bedside experience contradicts the laboratory researches we should follow the former, leaving the latter to take care of itself.

Dr. W. W. TOMPKINS, Charleston, W. Va.—I would like to see emphasized that part of the address of Dr. Tyrode which speaks of preparations which should not be excluded merely because the kidneys were not doing their duty. There seems to be an impression among the profession that in Bright's disease particularly morphin should be excluded. My personal observation and experience is that morphin will give a certain degree of comfort. So in pneumonia we are told not to use morphin on account of the depressing effects on the heart. I think that all depends on the quantity that is used. Ordinarily, large quantities of morphin, particularly in pneumonia, are injurious; but, on the other hand, one of the most satisfactory means of whipping up a lagging heart is to use morphin in small quantities, such as a sixteenth to an eighth of a grain frequently repeated. Rheumatism is one of the most unsatisfactory diseases we have to deal with. How much effect the salicylates have on rheumatism I am unable to state; in some cases they seem to act like magic, and in other cases they are most disappointing.

Dr. M. VEJUX-TYRODE—I agree with the one who said that conclusions should be drawn very carefully from scientific experiments, not only on this subject, but also in scientific experiments on all subjects. As regards the use of ether, its apparent action can be explained. In the first place, all irritating substances have a reflex stimulating action due to the irritation; thus the local application of ammonia, or acetic acid, or cold baths, momentarily increase circulation; but for a longer period of time it is impossible for them to act. Ether depresses the heart only when given in large quantities. There is never greater efficiency of the heart's action, but the vessels relaxed by ether enable you to feel a pulse more plainly, and you have an apparent stimulation which, however, is not real. In regard to experiments on animals and the value of these experiments, I think the criticism is a little too severe. You will find a certain reaction in animals from certain drugs. Of course, we must admit that this varies, but, as a rule, it is only a matter of degree; and, practically, that which stimulates the muscle of the heart does so not only in the dog but in all animals down to the frog. You may say that morphin produces sleep in the higher animal and excitement in the frog. This is explained very easily. There is a certain action of drugs whereby they act strongest on the best-developed functions. In the human being the brain is more highly developed than the spinal cord, therefore morphin brings about sleep, and the stimulating action on the cord is much less manifest because in the higher animal the brain controls the cord more powerfully. On the other hand, in the lower animal the action of morphin is more pronounced on the cord because there is little cerebrum to be acted on, and thus we get excitement instead of sleep. Still, the action of the drug is not changed; it is only a different manifestation in the different animals due to their degree of development. In drawing conclusions for use in disease we must take into consideration all these different actions on different organs. Dr. Robinson stated that when we have two sources of knowledge for the action of a drug, the purely clinical and the pharmacologic point of view, we

ought to choose the clinical one. I think that is a point which should be taken into profound consideration before drawing any conclusion, for clinicians have differed widely for ages and ages. A drug will be discarded for a long time and then brought into use again, but for an entirely different affection from that in which it was formerly used, and this shows that the clinical basis for action was not substantial. When sufficient experimentation has been done by reliable men, who all agree on the action of a drug, there should be no hesitancy in leaving the clinical basis and changing to the pharmacologic one.

REMOVAL OF THE FAUCIAL TONSIL;

SOME OBSERVATIONS AND A NEW METHOD OF OPERATION.*

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In reviewing the literature¹ on diseases of the tonsils, it will be found that as early as 10 A. D. the medical men of that age recognized this structure as the seat of disease, for at that time the gland was operated on and completely extirpated. In the work of Celsus (10 A. D.) we find tonsillotomy spoken of as a common practice. It was accomplished either by dissecting with a bistoury or by the fingernail of the operator. Not until much later did the profession become aware of the dangers of the operation, which finally came to be considered dangerous from the fact that cases occurred in which death from hemorrhage followed. It was in the fifth century that medical writers first advocated a modified operation for the relief of enlarged glands in this region. Ætius (490 A. D.) advised the removal of only that part of the gland which protruded beyond the pillars of the fauces. In 750 Paulus Ægineta advised grasping the gland with a tenaculum, drawing it well out of its position and "cutting it out by the root." He limited his operable cases, however, to those in which the tonsils were white and contracted, with a narrow base. He advised against operation on the inflamed tonsil. Albercasis (1120) had the same ideas, showing that the fear of hemorrhage had gained a firm foothold in the minds of medical men of his day.

After this period the operation became obsolete, and in the work of Paré (1509) mention is made of the performance of tracheotomy where there was serious enlargement of the tonsils. He also mentions ligature of the glands, but advised against excision. In 1540 it was suggested to loosen the gland around its edges and then tear it out by grasping it with a vulsellum forceps. As the operation was not easy, and dangerous, great care was enjoined. In 1637, Serverini, during an epidemic of tonsillitis at Naples, removed large portions of the gland, using caustics when they were sessile, a hook and a semi-circular knife when pediculated. In 1672 Dionis advised against operation in any form, as in his opinion the tonsil had a physiologic importance which should not be sacrificed. He did not believe in taking even a small piece away. Many surgeons wrote adversely to the operation. Among these was Heister (1683), who said: "The operation is not only too severe and cruel, but also too difficult in its performance to come into the practice of moderns because of the obscure situation of the tonsils."

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. The historic part of this paper was taken from Mackenzie's "Diseases of the Throat and Nose," and the anatomic part from Watson Williams' "Diseases of the Upper Respiratory Tract."

unless co-operation of investigators exists. In this sense it would be very desirable if there were some central institute or academy which would direct the activity of all the research workers in a given field; which would assign problems and apportion means; which would direct and co-ordinate the work. The difficulties connected with such a plan are, however, so great that there is little chance of its realization in the near future. Nor is the present system, in which every laboratory is an isolated center of research, without some compensating features. It serves to distribute research over a wide field; it encourages originality, and it is a strong stimulus to competition, which is not always detrimental. These features are not, however, incompatible with some degree of co-operation. Every research worker should place himself in communication with other experimenters, or under their guidance. No better means for this purpose can be imagined than the scientific medical societies, local and national, and their sections. These can, by the appointment of committees, by prescribing of questions and by popular lectures, etc., take on themselves advisory and critical functions which would be extremely valuable, and which would lie strictly within their scope.

This concludes all I wished to say to you on the subject of "Research Problems of Pharmacology." I hoped to convince you that work in this field deserves the active support of the entire medical profession, and that this support is practicable. I have tried to give some suggestions as to the ways in which the best results could be assured. I have also ventured to give my conception of the rôles which the professional pharmacologists and the clinicians, the laboratories, the hospitals, the medical and scientific societies should play in this work. These are deep questions, and the views of others will doubtless be of the greatest value, if the paper is so fortunate as to elicit discussion. The solution to this most direct problem—how much every one of us should contribute to this work—is one which each must necessarily answer for himself.

DISCUSSION

ON THE PAPERS OF DRs. CUSHNY, TYRODE, AND SOLLMANN.*

DR. CASWELL A. MAYO, New York—I am much pleased to have the opportunity to say something on behalf of the American Pharmaceutical Association. That association is working on closely similar lines to those being followed by this Section, a fact which is shown by the character of recent communications read before the American Pharmaceutical Association, one of which was the report of the committee on the acquirement of drug habits, of which committee I am a member. This committee made rather an exhaustive study of the subject by correspondence with members of the pharmaceutical calling, and the conditions found show the great need for radical legislative measures restricting the sale of narcotic drugs. I am happy to say that this need is appreciated, and has already been acted on in Ohio and Illinois. One wholesale druggist in Ohio recently informed me that since the enactment of the anti-cocain law in that state—and the American Pharmaceutical Association is primarily responsible for the passage of the law—his sales of cocain had diminished to one-fourth of what they had been. We know that the sale of cocain in Ohio had grown to enormous proportions, but these sales have been materially cut down, and this is due largely to the activity of the American Pharmaceutical Association and the Ohio Board of Pharmacy. I mention this to show that the pharmacist, though much maligned, still has the good of the public at heart, and fully realizes the obligations under which he rests. No doubt you have seen much in the papers about the amount of adulteration of drugs that is carried on in New York City. Un-

fortunately, much of this is true, but the manner in which the facts were presented would convey the idea that all pharmacists are guilty of adulteration. All of you know that this is not true and that some of the pharmacists are reliable, and I want to enter a plea with you for the honest pharmacists. Last year the American Pharmaceutical Association celebrated its fiftieth anniversary; this organization was founded for the prevention of adulteration of drugs. This fact shows that the better element in the drug trade is active in its efforts to prevent adulteration, and the physician can help the reputable pharmacist by giving countenance only to those pharmacists who are accurate and trustworthy.

DR. HENRY BEATES, JR., Philadelphia—It is interesting to contemplate what seems to be the natural disappearance of homeopathy. In an effort to establish a law governing practice in the state of Pennsylvania, where there are three boards of medical examiners, a measure was incorporated in the proposed act which would restrict the licentiate to that system of practice representing the school from which he obtained his diploma. In other words, one licensed by the eclectic board would be restricted to eclectic practice, and so, respectively, with the licentiates of the homeopathic and the regular boards. It is interesting to know that a delegation representing homeopathy appeared before the legislature and protested against the incorporation of such an article in the proposed act. In reference to the general results which have been published and taught as the result of investigations on the physiologic action of drugs, and which investigations were conducted by the administration of galenic preparations, it is self-evident that the natural complexity of a given remedy, because of the various active principles possessed, renders these conclusions erroneous. Our physiologic action, therefore, must be practically rewritten, and such conclusions adopted as are based on the exclusive use of chemically-pure active principles. Therapeutics of a scientific character can only be practiced by the use of chemically-pure active principles. The time has arrived when these crude and unavoidably complex galenic preparations must be almost entirely abandoned.

DR. W. J. ROBINSON, New York—I am the last person in the world to discourage pharmacologic research. I know the benefits derived from this source have been enormous, but I am not as enthusiastic as I was ten years ago. Ten years ago I was a hearty vivisectionist, and was called all sorts of names by our antis; but I must say that while the benefits are great, we are very apt to be led into error. Our Chairman, in his most excellent address, has shown us that life is neither a chemical, nor a physical, nor a purely mechanical force; but I go still further and say that purely animal life is different in many manifestations from human life. In the former, for instance, suggestion plays no part, while we know what an important rôle it plays on the condition of health or disease in human beings. To mention only two examples which the essayist has given us: He said that experimental research has shown that ether in collapse is not to be used. Clinically, we know that it is a good measure when injected hypodermically. Again, pharmacologic research shows that antiseptics are of no benefit because we can not get a sufficient quantity in the blood to kill the bacteria; still, experimentally, we know that intestinal antiseptics do an immense amount of good. How they do it we do not know, but they do it. I am not opposed to pharmacologic research, but I accept laboratory conclusions with hesitation. In this connection I will read a few words written by Sir William Mitchell Banks, who was at one time an enthusiastic animal experimenter, but whose ideas on the subject have undergone a considerable change. He says:

No one for a moment will consider me as holding in contempt either experiments or commissions as such, and what I say I say with regret, but my firm conviction is that neither of them has hitherto been of the least avail in aiding us in our search for the best anesthetic or for the best method of using it. There is no possible comparison between a healthy dog or cat or any other animal, and a diseased human being. They are not in the least under the same conditions, and experiments on them are therefore useless. Take on one side a healthy retriever with its heart and arteries all sound, and without knowledge of what is going to happen to it, consequently without the least fear or anxiety. Take, on the other

* The papers of Drs. Cushny and Tyrode appeared last week.

hand, a middle-aged, or somewhat corpulent woman, with flabby heart and somewhat inelastic arteries. Suppose her to be the victim of some cancerous disease the knowledge of which has worn her out with anxiety and distress, and then let her pass a sleepless night before the operation, going over and over in imagination all the terrible process and making sure that she will die under the anesthetic. Or take your drunken, whisky-sodden dock-laborer, with tissues so steeped in drink that one is almost tempted to believe in the possibility of spontaneous combustion, with cirrhotic liver, fatty heart and albuminous urine. I can not see any parallel whatever between the healthy canine animal and the diseased human animal, nor can I see how experiment on the former will help us with the case of the latter. It is impossible.

Dr. Bodine recently reported two cases of chloroform anesthesia, both patients dying before a drop of chloroform had been administered; simply dying from fear or autosuggestion. The conditions in experimented animals and diseased human beings are widely different. Laboratory research should be continued, but we should accept conclusions with the greatest caution, and whenever bedside experience contradicts the laboratory researches we should follow the former, leaving the latter to take care of itself.

Dr. W. W. TOMPKINS, Charleston, W. Va.—I would like to see emphasized that part of the address of Dr. Tyrode which speaks of preparations which should not be excluded merely because the kidneys were not doing their duty. There seems to be an impression among the profession that in Bright's disease particularly morphin should be excluded. My personal observation and experience is that morphin will give a certain degree of comfort. So in pneumonia we are told not to use morphin on account of the depressing effects on the heart. I think that all depends on the quantity that is used. Ordinarily, large quantities of morphin, particularly in pneumonia, are injurious; but, on the other hand, one of the most satisfactory means of whipping up a lagging heart is to use morphin in small quantities, such as a sixteenth to an eighth of a grain frequently repeated. Rheumatism is one of the most unsatisfactory diseases we have to deal with. How much effect the salicylates have on rheumatism I am unable to state; in some cases they seem to act like magic, and in other cases they are most disappointing.

Dr. M. VEJUX-TYRODE—I agree with the one who said that conclusions should be drawn very carefully from scientific experiments, not only on this subject, but also in scientific experiments on all subjects. As regards the use of ether, its apparent action can be explained. In the first place, all irritating substances have a reflex stimulating action due to the irritation; thus the local application of ammonia, or acetic acid, or cold baths, momentarily increase circulation; but for a longer period of time it is impossible for them to act. Ether depresses the heart only when given in large quantities. There is never greater efficiency of the heart's action, but the vessels relaxed by ether enable you to feel a pulse more plainly, and you have an apparent stimulation which, however, is not real. In regard to experiments on animals and the value of these experiments, I think the criticism is a little too severe. You will find a certain reaction in animals from certain drugs. Of course, we must admit that this varies, but, as a rule, it is only a matter of degree; and, practically, that which stimulates the muscle of the heart does so not only in the dog but in all animals down to the frog. You may say that morphin produces sleep in the higher animal and excitement in the frog. This is explained very easily. There is a certain action of drugs whereby they act strongest on the best-developed functions. In the human being the brain is more highly developed than the spinal cord, therefore morphin brings about sleep, and the stimulating action on the cord is much less manifest because in the higher animal the brain controls the cord more powerfully. On the other hand, in the lower animal the action of morphin is more pronounced on the cord because there is little cerebrum to be acted on, and thus we get excitement instead of sleep. Still, the action of the drug is not changed; it is only a different manifestation in the different animals due to their degree of development. In drawing conclusions for use in disease we must take into consideration all these different actions on different organs. Dr. Robinson stated that when we have two sources of knowledge for the action of a drug, the purely clinical and the pharmacologic point of view, we

ought to choose the clinical one. I think that is a point which should be taken into profound consideration before drawing any conclusion, for clinicians have differed widely for ages and ages. A drug will be discarded for a long time and then brought into use again, but for an entirely different affection from that in which it was formerly used, and this shows that the clinical basis for action was not substantial. When sufficient experimentation has been done by reliable men who all agree on the action of a drug, there should be no hesitancy in leaving the clinical basis and changing to the pharmacologic one.

REMOVAL OF THE FAUCIAL TONSIL;

SOME OBSERVATIONS AND A NEW METHOD OF OPERATION.

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In reviewing the literature¹ on diseases of the tonsils it will be found that as early as 10 A. D. the medical men of that age recognized this structure as the seat of disease, for at that time the gland was operated on and completely extirpated. In the work of Celsus (10 A. D.) we find tonsillotomy spoken of as a common practice. It was accomplished either by dissecting with a bistoury or by the fingernail of the operator. Not until much later did the profession become aware of the danger of the operation, which finally came to be considered dangerous from the fact that cases occurred in which death from hemorrhage followed. It was in the fifth century that medical writers first advocated a modified operation for the relief of enlarged glands in this region. Ætius (490 A. D.) advised the removal of only that part of the gland which protruded beyond the pillars of the fauces. In 750 Paulus Ægineta advised grasping the gland with a tenaculum, drawing it well out of its position and "cutting it out by the root." He limited his operable cases, however, to those in which the tonsils were white and contracted, with a narrow base. He advised against operation on the inflamed tonsil. Albercasis (1120) had the same ideas, showing that the fear of hemorrhage had gained a firm foothold in the minds of medical men of his day.

After this period the operation became obsolete, and in the work of Paré (1509) mention is made of the performance of tracheotomy where there was serious enlargement of the tonsils. He also mentions ligation of the glands, but advised against excision. In 1540 it was suggested to loosen the gland around its edges and then tear it out by grasping it with a vulsellum forceps. As the operation was not easy, and dangerous, great care was enjoined. In 1637, Serverini, during an epidemic of tonsillitis at Naples, removed large portions of the gland, using caustics when they were sessile, a hook and a semi-circular knife when pediculated. In 1672 Dionis advised against operation in any form, as in his opinion the tonsil had a physiologic importance which should not be sacrificed. He did not believe in taking even a small piece away. Many surgeons wrote adversely to the operation. Among these was Heister (1683), who said: "The operation is not only too severe and cruel, but also too difficult in its performance to come into the practice of moderns because of the obscure situation of the tonsils."

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. The historic part of this paper was taken from Mackenzie's "Diseases of the Throat and Nose," and the anatomic part from Watson Williams' "Diseases of the Upper Respiratory Tract."

4. *Dissection.*—This is a tedious operation, requires a good patient and is liable to leave a haggled surface. It is hard to avoid cutting the pillars, and when the tonsil extends well up into the soft palate, as it often does for 2 cm., it becomes difficult. Bleeding is very troublesome, and this makes a clean, smooth wound very hard to accomplish. Hemorrhage is very liable to be severe.

5. *Scissors.*—After trying all the other methods, I have come more and more to depend on the scissors method, and the more I see of them the more confirmed do I become that this method is the best for dealing with hypertrophied and diseased tonsils. After loosening the anterior pillar with a curved bistoury, the scissors are fitted into place, and with two or three snips the tonsil is removed.

After its removal the supratonsillar fossa is explored for fragments, and if any are found it is easy to cut them away. Flat tonsils which extend down to the base of the tongue are as easily removed as little ones. After the tonsil is removed, if any pockets exist they can be cut out in the same manner. The scissors I prefer is one devised by myself and has the following points of advantage: (1) It has blades that can be thrown wide apart with the least possible motion of the handles; (2) as the handles do not have to be widely separated, one is able to operate in a mouth where the teeth can not be thrown wide apart; (3) the curve of the blades is sufficient to avoid the danger of cutting the epiglottis; (4) they are bent on their long axis so that when in position they fit between the pillars of the fauces; (5) they are strong enough to cut through the toughest fibrous tonsil. The instrument used to separate the pillar is a double-edged bistoury curved on the flat and with a dull point. By having it double-edged it may be used to cut up or down and for either tonsil. In its removal the tonsil is grasped by a strong fixation forceps by which the gland is drawn inward. The left tonsil is removed with the scissors held in the right hand, and the right with the scissors in the left hand. It is unnecessary to resort to the use of a mouth gag or tongue depressor. There is little pain after the pillar is loosened and the hemorrhage is not greater than with the use of the tonsillotome. The wound is clean and smooth, and is healed in from four to seven days. The pillars do not attach to each other, and after the surfaces are healed it would be hard to tell that an operation had been done, as very little cicatricial tissue is formed.

After a year's observation, both in clinical and private cases, I am satisfied that this operation is a happy solution of complete excision. In several instances in removing fibrous tonsils I have seen brisk bleeding which in each case was caused by the cutting of a small arterial branch embedded in the fibrous tissue. In these cases I grasp the bleeding vessel with the surrounding tissue and excise it till I find I am into the connective tissue surrounding the tonsil. As soon as this is accomplished the vessel has a chance to retract and the bleeding ceases. I have never had to resort to unnatural means as yet for controlling hemorrhage and have not thus far experienced secondary hemorrhage. Young patients, as well as older ones, are operated on with ease, and it seems to the author that there is nothing wanting to make the operation both generally adopted and useful.

100 State Street.

DISCUSSION.

Dr. FRANK W. HILSCHER, Spokane—I have been doing a similar operation for about three years, and I am in accord with everything Dr. Robertson said this morning, especially

that regarding the removal of those tonsils which ordinarily are not removed. They are diseased tissue and are very frequently the cause of trouble where one would not think they would be large enough to do any danger. Those pockets harbor all kinds of germs, and unless you can get rid of them entirely you have not done for your patient all that you should. I use the scissors usually for the whole operation. I have a certain kind of scissors with which I can remove both tonsils with the right hand.

Dr. S. G. MINER, Detroit—I certainly think that the scissors operation must be performed in a very limited number of cases. The great objection to it is its severity; in private practice the pain and discomfort given the patient is unnecessary except in the diseased submerged variety. I think if more care were taken in freeing the tonsil from all adhesions better results would follow. If that were done in every case the scissors operation would be unnecessary. If we can remove the tonsils with the tonsillotome, it is certainly preferable.

Dr. J. F. BARNHILL, Indianapolis—Dr. Robertson's demonstration shows that there are imbedded tonsils that can be well and certainly removed by his method. I have no doubt that if some of us who are less skilled in the use of scissors were to try the operation we would meet some difficulty. I prefer the use of the snare in such cases as Dr. Robertson operated on this morning, first loosening the pillars from the tonsils just as Dr. Robertson did before using his scissors. I think that with the snare method the operator can remove the tonsils much quicker than did the Doctor with his scissors, rapidly though he worked. For a child, I very much prefer the tonsillotome to any other instrument. At this age the gland is soft, not often adherent to the pillars of the fauces, and removal can be accomplished in a very few seconds. This being the case, why should we subject the child to an operation which is longer and more painful?

Dr. E. FLETCHER INGALS, Chicago—In the majority of cases that I see, the pillars of the fauces are adherent to the tonsils, and when this is the case I am not able to remove them satisfactorily with the tonsillotome. In adults I use the tonsillotome almost invariably; in children I seldom use it. In children and in adults when the anterior pillar of the fauces is adherent to the tonsil I separate them with the blunt hook and with my finger, and then, with my finger when practicable, dissect the tonsil loose from its bed. It may then be seized with the forceps and removed with the cold snare. In this way there is practically no hemorrhage in the great majority of cases, excepting the little that comes from separating the anterior pillar. I formerly thought there would never be bleeding of any amount, for in hundreds of operations I had not seen it; but one day when operating on a child a vessel a millimeter and a half in diameter bled profusely, but as the patient was under a general anesthetic I had little difficulty in catching the vessel with a hemostat and tying it. In more than 50 per cent. of all cases of hypertrophy of the tonsils in children there is an enlargement at the same time of Luschka's tonsil. If we remove the faucial tonsils but leave a large Luschka's tonsil we have not done our duty. In about 20 per cent. of the cases of adenoids there is also atresia of the posterior nares which should be cured at the same time. Owing to these conditions I place the patient prone with the face drawn over the side of the table and first remove the right tonsil, and then turn the patient to the other side and remove the left tonsil, and with the patient in this latter position I remove Luschka's tonsil. If an operation is done at all it should be done well.

Dr. ROBERT C. MYLES, New York—It would seem that an operation like tonsillotomy should have been more or less perfected before now, but my opinion is that it is in its infancy. For several years I have been experimenting with the tonsils. I have employed the scissors, the guillotine, the snare, and the various forms of tonsil punches, and the operations have been done with and without anesthesia. It seems to me extremely odd that we should think so differently concerning the tonsils. I have never seen a tonsil adherent to the anterior pillars. In the dead room I have taken specimens and given them to the

pathologists and they could not find adhesions. The part some physicians call the pillar is the opercular fold and is a half an inch from the pillar. This fold of mucous membrane touches the pillar only at the upper part. We should determine how much tonsil tissue one is entitled to; we do not know how many cubic millimeters of tonsil tissue should be considered the normal amount. If one examines carefully he will find that tonsil tissue in many cases extends outward into the neck for some distance. In children, on whom guillotine operations on the tonsils have been performed, I often find large masses that should be removed. In the cases in which there is bleeding and vomiting, in a woman, for instance, who is delicate and nervous, the punch forceps is at times preferable.

DR. H. W. LOEB, St. Louis—In the beginning of my practice I feared and looked for adhesions. I have not found much reason, as Dr. Myles states, to fear adhesions. My trouble is not with the adhesions to the pillars or to the plica tonsillaris but with lateral attachments. When the tonsils extend downward and are attached to the lateral wall of the pharynx you may have considerable trouble. My own methods, of course, have been various. In the more favorable cases, with the electrocautery snare you can get out all the tonsil that projects, and with the cold snare, of course, the same thing could be done. The appearance of the cut surface of the tonsil when the knife operation is used and the rounded appearance when the snare is used, in many cases demonstrates the value of the snare operation in completely removing the diseased tonsillar tissue.

DR. GEORGE L. RICHARDS, Fall River, Mass.—The ordinary Schleich anesthetic tablet dissolved in water and injected into the tonsil will secure an anesthesia that will materially help in operations without general anesthesia. It is of especial value in the snare operation. Dissolved in an adrenalin solution it gives beautiful results in preventing loss of blood. In only one case have I had hemorrhage after this method. I dissolve the tablet in thirty minims of 1 to 6,000 to 1 to 10,000 adrenalin solution.

DR. CHARLES M. ROBERTSON, Chicago—We must remember that this is an operation for the removal of the tonsils rather than an operation for the avoidance of pain. The operation is not any more painful than a tonsillotomy ordinarily is. It is not any more painful than the snare operation. It is also not so much a question whether we can get the tonsil out quickly or slowly but rather whether we get it all out. As to the danger of this operation, it seems to me to compare well with other operations. Dr. Ingals says that he never uses the tonsillotome in children but invariably does in adults, and that he never finds adhesions in adults, but does in children. The reverse would seem to me better. In the hysterical man I operated on this morning the adhesions were tough, true adhesions and difficult to cut. In Chicago I have seen many such cases. Of course, what I have called adhesions may be the plica tonsillaris, but there are adhesions there nevertheless. One can use any kind of general anesthesia preferred. The hen-egg tonsils spoken of by Dr. Myles are exactly the ones we are after, and the ones I particularly use my scissors for. The possibility of doing damage to the blood vessels has been suggested. One can go just as far as one needs to get out the tonsillar tissue and no further. After one gets out all the tonsillar tissue one can see the connective tissue. As to the snare, Dr. Loeb's remarks correspond with what I said in my paper. It is a good method, especially in children under general anesthesia. The objection is that you have to loosen up the tonsil too much to adjust the snare. The tonsil often extends up into the soft palate, and you can pull them well down within the grasp of the scissors. These cases make the most beautiful ones for the use of the scissors. The hemorrhage the Doctor spoke of was not a secondary hemorrhage. Secondary hemorrhage comes on later from the sloughing of a vessel. What he mentioned was a late primary hemorrhage. I do not object to the use of the tonsillotome, but it is an imperfect method of operating.

To properly diagnosticate a given case is the *sine qua non*.—*Pennsylvania Medical Journal*.

ARTIFICIAL DILATATION OF THE CERVIX UTERI WITH A NEW INSTRUMENT.

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Artificial dilatation of the cervix uteri during labor is a well-recognized obstetric expedient, which is not only of great value in certain cases as a means of accelerating tedious labor, but also becomes an absolutely necessary method of procedure in many instances where the life of the mother or of the child may be dependent on prompt delivery.

The problem of the safe and efficient mechanical dilatation of the rigid cervix of the pregnant uterus is an interesting one which has not as yet been entirely and satisfactorily solved, although there are many methods and a considerable number of instruments devised for the purpose. Under the head of mechanical dilatation of the cervix the writer would include all forms of artificial dilatation whether performed by the hand, by dilating bags, or by instruments.

Bougies and gauze introduced into the uterus, the latter device being known as tamponade of the cervix, should in no respect be regarded as dilators of the cervix, although frequently so considered. These are merely stimulants of uterine contractions in the absence of labor pains.

Manual dilatation, both complete and partial, has doubtless been performed many times by nearly every practitioner of general medicine, and in many cases with the greatest satisfaction with respect to results. In the writer's experience, it has proved of the greatest value as a means of partial dilatation of the rigid cervix in the presence of the tedious and exhausting but inefficient pains of the first stage. For this condition it is best done under primary anesthesia, all that is necessary being accomplished during one or two uterine contractions. The uterine contractions are thereby inhibited for only a few minutes, but the patient is often thus enabled to secure a short period of rest or sleep, which is of material aid to her in completing the labor. The writer has used this expedient a great many times, and has found it much more satisfactory and efficient than the administration of chloral, which is now rarely used. If carefully done, the method will seldom give rise to cervical lacerations.

If the membranes are unruptured, one effort of dilatation under primary anesthesia has always been sufficient in my cases. With ruptured membranes, however, and a rigid cervix, partial manual dilatation finds its greatest value for tedious labor. With a small os, a rigid cervix, ruptured membranes, and the patient becoming worn out from inefficient pains, intermittent manual dilatation, if I may be allowed the use of this term, is better and safer than complete manual dilatation performed at one sitting. That is, partial manual dilatation may be repeated several times, with an interval of an hour or more between, with perfect safety in a dry first stage where the patient is apparently making no progress herself. The intermittent manual dilatation is much safer for the integrity of the cervix than is uninterrupted complete dilatation, and the repeated primary anesthesia at this time amounts to no more than does the giving of ether with single pains in the second stage.

It may sometimes seem that there is no appreciable progress on the part of the patient in the intervals between the dilatations, even with severe pains, and yet

there is in reality progress, and that of an important nature. If carefully looked for, this is shown in the drawing up of the cervix which tends toward its ultimate obliteration or disappearance over and above the fetal head. It is clear, I think, that if complete manual dilatation is performed at one time in such cases, the cervix does not become completely obliterated or taken up in the natural manner, but usually hangs down in the vagina as a sort of border or short curtain around the head. This often gives rise to difficulty in case of a subsequent forceps operation, particularly the anterior portion of the cervix which may obstruct the head. Moreover, I believe this condition is a frequent cause of lacerations to the cervix. As an illustration of this method, recently I gave ether three times and did partial manual dilatation each time in a young primipara with a long and exhausting first stage. This amounted in the end to complete manual dilatation. A high forceps operation was finally necessary, and as a result of so much interference I expected more or less impairment of the cervix, but on examination of the patient four weeks after delivery I was much gratified to find that there was absolutely no tear.

Manual dilatation has, however, always found its widest use in cases calling for rapid dilatation and delivery, and in such is undoubtedly a method of the greatest value. In placenta previa and in eclampsia it is most frequently used.

Complete manual dilatation of the cervix of the pregnant uterus, especially in primiparous cases, is a very exhausting and worrisome procedure, and it not infrequently requires more than an hour to accomplish. It exhausts first one hand and then the other of the operator, and the assistant is often asked to aid because of the severe labor involved. Nothing that I know of in the whole range of surgery is so difficult and so exhausting as the complete manual dilatation of the rigid os, followed by delivery in a primipara at or near term. Moreover, the operation is often unsatisfactory because when it is completed as far as possible, and the closed fist may be inserted and pulled through the cervix, even then the dilatation is not sufficient to admit of the passage of the fetal head at full term, and there is often sufficient delay from this cause to interfere with the birth of a living child. Moreover, after the severe strain and the cramped position of the hands necessary in manual dilatation, the operator is in no condition to perform an operation and to do justice to himself and his patient.

With the various forms of dilating bags I have had a very limited experience. The small fiddle-shaped rubber bags of Barnes were never efficient and are, I believe, practically obsolete, although they still figure in many text-books. The cone-shaped inelastic bag of Champetier de Ribes undoubtedly has certain merits as a dilator of the cervix and also has many warm admirers. It is used more or less extensively as a dilator with ruptured membranes, and also to promote contractions in uterine inertia. Abroad, it is also used in the treatment of placenta previa, where in Dublin, I believe, it finds its chief advocates for this condition. The great objections to its use are that it is often difficult to properly insert; there is danger of its displacing the presenting part at the pelvic inlet; it frequently results in prolapse of the cord, and too violent uterine contractions are likely to be induced.

The use of tents as cervical dilators has, I believe, been almost wholly given up, although they are occasionally advised by writers. Their use is not to be recom-

mended because of the slowness of their action and chiefly because of the impossibility to render them aseptic.

Deep cervical incisions, in place of mechanical dilatation, is a method recently advanced by Dührssen of Berlin, in whom it finds a very strenuous advocate. He is also a great opponent of instrumental dilatation chiefly on the ground of the danger of deep tears, but his opinion can not be considered altogether unprejudiced because of his own operation. Dührssen's method has not been practiced to any great extent in this country or abroad so far as I am aware, outside of his own immediate circle.

That there is a certain considerable and legitimate need and demand for a mechanical dilator of the cervix in pregnancy and in labor is, I believe, plainly evident. This demand is attested by the various instruments which have already been devised for this purpose, although no one of these, except the recent one of Bossi, has ever met with much approval outside of the hands of its inventor.

Considerable controversy has recently been aroused, particularly in Germany, by the introduction of Bossi's dilator, which has had an extensive trial there and in England. Many men have used it successfully and without serious damage to the maternal soft parts. On the other hand, some men denounce it as a dangerous instrument and declare that any form of instrumental dilatation of the cervix is an unsafe procedure. I have myself used the Bossi dilator in two cases of eclampsia demanding rapid delivery, and with the greatest success. Both patients were primiparae, and in neither was there appreciable laceration. One required nineteen minutes and the other thirty minutes for complete dilatation.

Any contention over the use of methods or of instruments can be settled, I believe, in only one way, and that is by the results of the individual operator. If one finds that by adopting certain methods he obtains better results than by others, then that method is by all means the one for him to pursue. Other observers may get different results and naturally make their deductions accordingly.

To the average man the operation which accomplishes the result in the easiest manner and with the least damage is the most satisfactory, and that operation, whether it be by hand or by instrument, is the one for him to adopt. There seems to be nowhere any hesitancy in the employment of forcible dilatation of the cervix, but it is altogether a question of how it shall be performed. I have no doubt that forcible instrumental dilatation of the cervix will in some cases, even in the most skillful hands, cause moderate laceration of the cervix, and very likely in unskillful hands occasionally deep tears. Why should this not be so with an instrument? We all know that it does frequently occur with dilatation by the hands, and that dilatation of the cervix without laceration is often impossible of attainment. Can any one describe any method of forcible dilatation which does not give rise to lacerations, or can any one point out any number of cases which have been dilated manually which do not show them?

The deepest laceration I have ever seen—one extending deep into the broad ligament—has recently been under my care for repair, after manual dilatation at the hands of a man who opposes the use of the instrument. I have also known of at least two cases of rupture of the uterus from manual dilatation. Even cases in which

the delivery is entirely taken care of by Nature show deep lacerations. What gynecologist has not seen many deep bilateral lacerations in women who have had absolutely normal labors? There always is, and probably always will be, more or less danger of lacerations in any form of artificial dilatation of the cervix for rapid delivery, no matter whether this is done manually or by instruments. It is practically impossible, in my experience, to dilate a primiparous cervix completely by hand and do a rapid delivery without causing lacerations of the cervix. Undoubtedly, the colpeurynter does this better and with less injury than any other method, but even this is not free from objections on this score.

The danger of tearing the tissues is, I believe, not as great with the metal dilators, if they are used properly and carefully, as it is with the hand attempting to force itself into the closed cervix. With manual dilatation it is often not a question of merely causing tears, but so rigid is the cervix that it becomes largely a question of being able to apply sufficient force to get the os open in some way and of pushing the hand through, regardless of the integrity of the cervix. In many cases where the hand is the agent for dilatation the cervix yields only by tearing.

With the mechanical dilator the force expended can be accurately gauged and uniform power and pressure applied to the cervix, and by keeping the tissues constantly on a moderate tension, letting up a little occasionally to observe its effect on the cervix, the tissues are stretched and give better than by such jerky and irregular force as may be applied under manual dilatation.

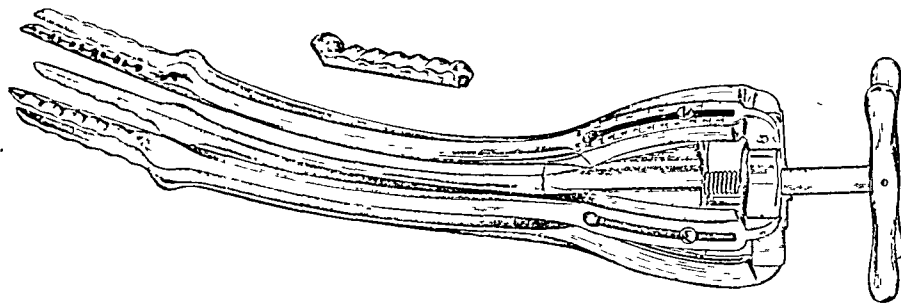
I do not wish it to be thought that I believe that manual dilatation of the cervix is to be superseded by instrumental dilatation or even that its field is wider than that of the former. Manual dilatation of the cervix in labor is a procedure of great usefulness, and is considered by many men to be the only safe method, and is the only method used by them. In cases of soft multiparous cervixes, in the presence of old tears and in placenta previa, I believe that manual dilatation is usually much better than any form of instrumental dilatation. Indeed, in these cases it is my opinion that instrumental dilatation is usually contraindicated, excepting only certain instances where dilatation of the cervix may be done by some form of the colpeurynter. Instrumental dilatation is best done directly under the eye of the operator who can see and observe the cervix as it dilates and also the extent of each tear as it occurs. With a tear thus easily located, it is a very simple matter, as I have found, to put one or two stitches into the torn edges, although this is rarely necessary.

Granted that instrumental dilatation is permissible in certain cases, I believe it needs no demonstration that a dilator for the pregnant uterus to be efficient must exercise lateral pressure against the inner surface of the cervix. The insertion or pushing of conical-shaped bodies into the cervical canal suffices for slight degrees of dilatations for curettage, but for delivery sufficient dilatation can not be accomplished in that way.

The hand is virtually an instrument of the cone type, and whatever method of manual dilatation is employed the force is essentially that of a cone or wedge. The methods of Edgar and Harris overcome this to a certain degree, but are not applicable to all cases nor is complete dilatation accomplished by these alone.

Bossi of Genoa several years ago brought out his mechanical dilator, although it is only within a year or two that it has attracted much notice. It has proved so far the most efficient instrument yet put before the medical public for rapid dilatation of the cervix. The instrument is of metal with four arms made to expand by means of a series of levers controlled by a single screw. The instrument is undoubtedly a powerful one and able, with the exercise of considerable force, to accomplish the object for which it was designed. The chief criticism to be made of the instrument is that its mechanism is very complicated and it is so put together with its numerous parts, many levers and screws, that it is practically impossible to take it apart for cleaning. This feature renders strict asepsis impossible and is, of course, a *sine qua non* in any surgical instrument at the present time. The instrument, being of metal, may be boiled, but its many slots and crevices will harbor surgical dirt, so that in a very short time mere boiling would be inefficient. It is surprising that this very objectionable feature of the instrument has not elicited criticism before now.

In my opinion, the best feature of Bossi's instrument is that of the removable metal tips, which have been adopted by others, myself included. These admit of an instrument with a small point for use at the beginning of dilatation, while as the os becomes larger and the tips are applied, the pressure is distributed over a broader space so that there is less liability of cutting or tearing the tissues.



Recognizing the need of a mechanical dilator for emergency use I have designed an instrument which I believe will ultimately be found to fulfill every purpose required in an instrument of this kind. It is a five-bladed instrument, the tips of which are made to spread by an advancing cone moved by a screw and a handle. The instrument is made in a thoroughly aseptic manner with a limited number of parts. Each part is easily detached for cleaning purposes and there is no opportunity for the instrument to harbor surgical dirt.

The instrument was first designed for six arms, but I believe five is a better number, for the reason that the pressure is better distributed in five than in six points, no two arms coming directly opposite one another and, therefore, there is less danger from lacerations laterally, where they almost always occur.

Instrumental dilatation is best performed with the patient turned across the bed or on a table in the lithotomy position. A weighted perineum retractor or a broad Sims speculum is used, the anterior lip of the cervix being seized by a double hook and brought into view. The instrument is then inserted without the broad metal tips and dilatation carried to about three centimeters, when the instrument is removed, the tips applied and dilatation completed with them in place. The dilatation should be completed to about four inches by the scale in order to allow sufficient room for the fetal head. A scale in centimeters and inches indicates the amount of dilatation.

blasts wandered into the thoracic end of the diverticulum, passed through its wall and the tissues of the thorax until the salivary gland was reached. After penetration of the gland sporozoites were developed and liberated.

Availing myself of the announcement that type specimens were preserved in the collection of the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service, I requested permission to examine them, and I desire to acknowledge here the great courtesy and kindness extended to me on two such occasions by Dr. Herman B. Parker, the chairman of the working party. On subsequently re-examining our own sections

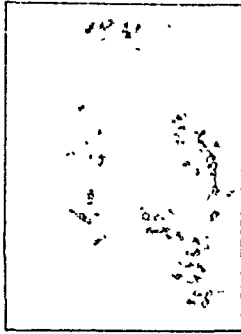


Fig. 1.—This is Figure 15 from the Report of Working Party No. 1, etc., and shows the fusiform bodies found in the stomach and diverticulum of infected mosquitoes.

of infected and non-infected mosquitoes which had already been studied more than two years before in conjunction with my honored colleague, the late Major Walter Reed, surgeon, U. S. Army, and Dr. William M. Gray,¹⁰ microscopist to the Army Medical Museum. I was unable to satisfy myself that a single one of our infected mosquitoes contained any of the fusiform, round or oval bodies described in the report of the working party of the Yellow Fever Institute, but forms



Fig. 2.—Photomicrograph, showing yeast cells in the diverticulum of a non-infected banana-fed insect from Havana. Spherical cells predominate, but fusiform and budding (conjugating?) cells are also shown. $\times 600$.

similar in appearance to those shown in Figure 16 of the report were occasionally found in the stomach contents. From their striking inequality in size and the absence of any structural details in these "fragmentation" forms, I regarded them even in the type specimens above referred to as masses of amorphous granular material. The bodies containing sporozoites¹¹ (?) which were found in the salivary gland have been abandoned

10. Practically all of our insects were embedded, cut and mounted by Dr. Gray.
11. Figures 29 and 30 of the report.

by these investigators because they no longer regard them as of importance.¹² It is noted that in a more recent article by the chairman of the working party all mention of these supposed sporozoites is omitted.¹³

The report does not state in what relative number of insects each of these forms was seen, but I learned from Dr. Parker, on inquiry, that the forms interpreted by

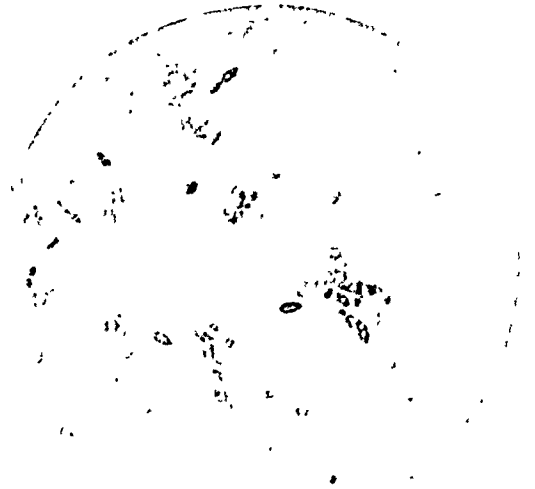


Fig. 3.—Photomicrograph, showing fusiform and budding cells in the diverticulum of another non-infected banana-fed insect from Havana. $\times 600$. These mosquitoes were sectioned and examined early in 1901.

them as fusiform protozoa were the only ones found to be constantly present. These are described as 3 to 4 microns long by 1.5 to 2 microns broad, and containing a nucleus.¹⁴ Appearances interpreted as evidence of conjugation are seen in certain of these forms where two of the ovoid bodies, varying more or less in size, are joined by a slender protoplasmic constriction¹⁵ (see Fig. 1); others show a minute bud projecting from one or both poles. The nucleus appears as a small brightly refractive unstained spot when the bodies are stained with hematoxylin or Bismarck brown, either of which colors the whole cell. The bodies that impressed me as being of the greatest importance, if constantly present, were the

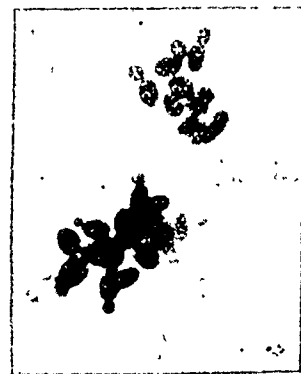


Fig. 4.—Photomicrograph, showing the ellipsoid yeast obtained from banana. Deep colonies in an agar culture two days old. Stained by Gram's method. $\times 600$.

oöcysts (?) in the albuminoid mass¹⁶ and the sporoblasts¹⁷ (?) in the connective tissues of the thorax.

With these pictures fresh in mind, on re-examining our slides prepared from infected mosquitoes, I failed to find any of the forms described, excepting, of course,

12. Dr. Herman B. Parker, chairman of the party, is my authority for this statement.

13. "The Etiology of Yellow Fever," by Herman B. Parker, M.D. Jour. of the Assn. of Mil. Surg., vol. xiii, No. 4, Oct., 1903.

14. Report of Working Party No. 1, etc., p. 31.

15. Loc. cit., Figure 15.

16. Figure 23 of the report.

17. Figures 27 and 28 of the report.

the "fragmentation" bodies¹⁸ to which I could attach no significance. On re-examining sections of normal (non-infected) mosquitoes the results were different, for in one of these, cut in cross section, the ventral diverticulum showed large numbers of spherical and fusiform cells, some of them corresponding in size and form to those described by the working party, but stained brilliantly with eosin (see Fig 2). The majority however, were spherical and a few were elongated into large rod forms resembling detached hyphæ. The smallest contained a single refractive spore, of minute size. The larger fusiform or flask-shaped bodies often contained several spores and in a few instances a single spore was seen to have passed into a projecting bud of protoplasm. A few hyphal filaments about 2 to 3 microns broad and 15 to 20 microns long exhibited a central row of spores arranged with a fair degree of regularity. The characters described justified the conclusion that these cells were blastomycetes that had gained access to the body cavities of the insect with food or water.

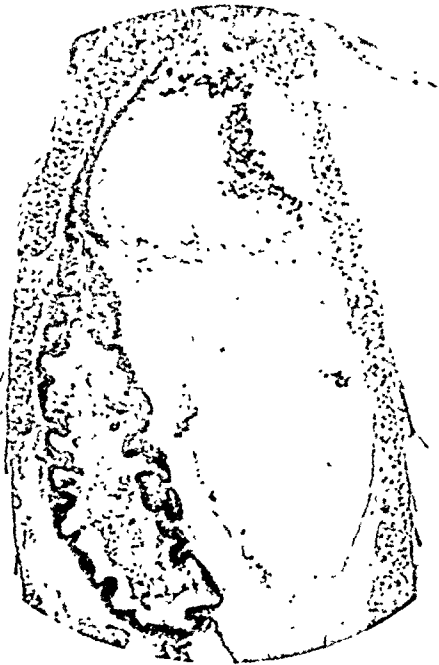


Fig. 5.—Photomicrograph, showing masses of yeast cells in the stomach and diverticulum of an insect fed on yeast culture and banana. Gram's method and Bismarck brown. Many of the yeast cells are decolorized and stained with Bismarck brown. $\times 50$.

In another non-infected insect cut in longitudinal section, fusiform, ovoid and flask-shaped cells (see Fig 3) corresponding in every way with the fusiform stage of the *Myxococcidium stegomyiae* as seen in their type specimens, were found throughout the ventral diverticulum, but were present in the upper portion of the stomach only and away from the blood mass. This insect had been permitted to take a meal of normal blood some hours before it died, and it is of interest to note that the organisms were found not within or near the residual mass of ingested blood, but only in the upper third of the stomach and associated with large numbers of bacteria. Their location suggests that instead of migrating through the wall of the stomach to the diverticulum¹⁹ they were carried over mechanically from the diverticulum into the stomach.²⁰ The large

majority of these cells showed a single central refractive vacuole (not spores in this instance) of minute size; a few contained two of them. Hyphal forms were not observed. The sections were stained originally with thionin and eosin on a number of slides and after decolorization the cells described were found also to stain perfectly with hematoxylin, Bismarck brown (these two were the methods used by Parker, Beyer and Pothier), and by Gram's method. Similar results were obtained

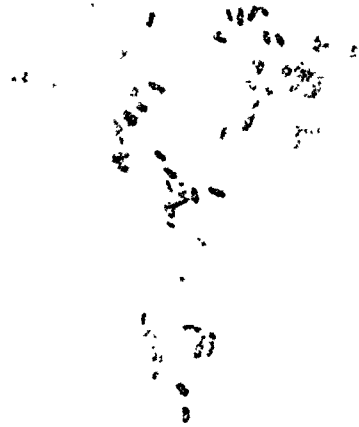


Fig. 6.—The same. A field from the diverticulum. $\times 600$.

with smears from a culture of a white yeast kept in the laboratory. A week or so later I showed these slides to Drs. Parker and Rosenau of the Marine-Hospital Service and expressed the opinion that the fusiform bodies were yeast cells.

In the endeavor to account for the presence of these bodies in our non-infected mosquitoes and their absence from those that had been infected, it was recalled that the insects had been reared and kept in different buildings and fed differently for the greater part of the time at least. The non-infected mosquitoes were supplied

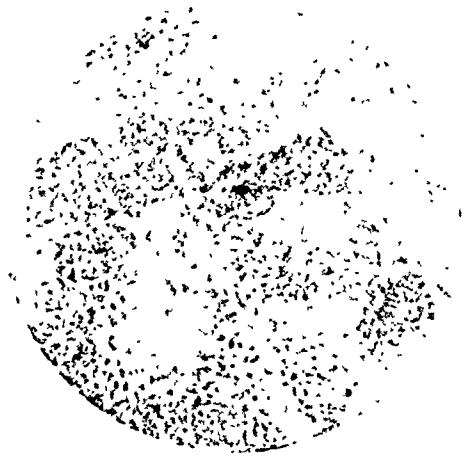


Fig. 7.—Colonies in the albuminoid mass in the diverticulum of a yeast-fed insect. Bismarck brown. $\times 600$.

with banana; the infected insects referred to in this paper were at no time permitted to feed on fruit, but were given only sugar and water in separate vessels. Many of the infected insects were reared under these conditions. I can speak positively on this point, because from the establishment of Camp Lazear until its abandonment the infected mosquitoes kept there were under my exclusive charge and control.

To establish, if possible, the connection between over-ripe fruits and the presence of these bodies in mosquito-

18. Figure 16 of the report.

19. Report of Working Party No. 1, etc., p. 29.

20. Accompanying the residual food supply, as indicated by Nuttall and Shipley, "Studies in Malaria," Jour. of Hygiene, vol. iii, No. 2, April, 1903.

toes, I obtained some *Stegomyia* through the courtesy of Dr. Edmond Souchon of New Orleans and Dr. L. O. Howard of the U. S. Department of Agriculture, the latter kindly supplying me with fifty living insects, a large number of eggs and some insects preserved in alcohol. Fusiform yeast cells were found in the diverticula of a very small proportion of those that were received in alcohol. An ellipsoid wild yeast (see Fig. 4) was then isolated from an old banana and insects were subsequently fed on the fermenting fruit, to which this yeast in pure culture had been added. Previous sterilization of the banana was not considered necessary. As a result, I have brought about the presence of bodies identical in appearance with the fusiform stage of the so-called *Myxococcidium stegomyia* in nearly fifty insects that have never been in contact with a case of yellow fever, and have demonstrated them, in large numbers, in the diverticula of four male insects that have been hatched and reared in the laboratory of the surgeon-general's office in Washington. I have been able to demonstrate the passage of these organisms from the ventral diverticulum through the natural opening of communication to the esophagus and thence to the stomach, where they are found only in the upper part of the organ, and are absent from the blood mass below, which is of large size and recently ingested. I have obtained in one instance as the result of feeding a male insect on wild yeast and banana, sections which show these organisms among the muscular tissues of the thorax, many of them lying in close proximity to the gland. Several insects similarly treated show the same bodies in the stomach and diverticula. (see Figs. 5, 6 and 7). They have not been found in fifty-two *Stegomyia* fed on yellow fever patients and kept under my immediate charge, a number of them having been used in reproducing the disease. Many of these mosquitoes that were kept for inoculation purposes died in the jars and are poorly preserved, but a number were killed and preserved immediately. The state of preservation of the insect, however, does not materially affect the staining properties of the blastomycetes, for in non-infected insects that have died in the jars and are crowded with bacteria, they color brilliantly and sharply. This would seem to indicate that they still retain their vitality after the death of the mosquito containing them.

Dr. L. O. Howard informs me that Dr. J. W. Dupree of Baton Rouge, La., writes him that he also finds the "*Myxococcidium stegomyia*" in non-infected mosquitoes at Baton Rouge.

Indirect confirmation of my results is seen in the report cited,²¹ where it is stated that the parasite was not found in *Stegomyia* that had been applied to a malignant case of malarial fever and were then fed on blood, sugar and water. If a sufficient number of insects had been used and they had been fed on overripe banana or other fruit, as the working party recommends for yellow fever mosquitoes,²² the supposed animal parasites would in all probability have been demonstrated.

On close examination of the liberated sporoblasts (?) shown in Figures 25 and 26 of the report referred to, it will be seen that these bodies show the variations in size and form and the typical budding process of yeast cells. This is particularly well marked in the left central and lower portions of Figure 26.

That ellipsoid wild yeasts may be pathogenic for the lower animals is shown by the researches of Rabinowitch,²³ who states also that these cells are stained by all the usual anilin colors. In the course of my own observations it has been found that typical ellipsoid forms in one of the mosquitoes were stained equally well with cosin, Bismarck brown, hematoxylin and by Gram's method.

Similar forms of blastomycetes have already been isolated from the broken-down nodules of spurious glanders, and the statement is made by Italian investigators that several parasites which are classified under the sarco- or micro-spordia belong really to the blastomycetes.²⁴

As the yeasts are universally disseminated in Nature (and there are many species of them, only a relatively small number being pathogenic), it is not surprising that experiments with a single species have failed to show positive evidences of invasion of the tissues of the insect. This was obtained by the working party of the Marine-Hospital Service in only a few instances, and is obviously of no importance from the point of view of the etiology of yellow fever. On the other hand, it is regarded as of the greatest importance that bodies identical with the fusiform stage of this supposed protozoön, the only form found to be constantly present, can be easily reproduced anywhere by feeding to mosquitoes a culture of an ellipsoid yeast.

The results of the observations here recorded are believed to justify the following conclusions:

1. The fusiform stage of the so-called *Myxococcidium stegomyia* of Parker, Bever and Pothier (1903), is not connected in any way with the transmission of yellow fever.

2. This organism appears to be not a protozoan parasite, but a yeast fungus. In its fusiform stage, the only form in which it was constantly present, it shows the characteristic budding, staining affinities and vacuolation or spore formation of a blastomycete, and it is found with considerable regularity in both male and female mosquitoes that have purposely been fed on overripe banana to which a pure culture of a wild yeast had been added in the laboratory.

3. The organism has not hitherto been found in repeated examinations of mosquitoes of the genus *Stegomyia* that have bitten yellow fever patients in the early stages of the disease, when such insects had been fed only on blood, dry sugar and water. This statement applies also to mosquitoes that are known to have reproduced the disease in human beings.

HOW TO WRITE A MEDICAL ARTICLE;

A PLEA FOR PLAGIARISM.

G. FRANK LYDSTON, M.D.

CHICAGO.

One of the most galling experiences of the middle period of one's professional career is the discovery that he has been wasting his energies in ambitions which might have been easily gratified by a very modest expenditure of force. How sad the experience of the man who has been for years desperately striving to attain by his pen a certain degree of fame to discover that he has not had discernment sufficient to point out to him the direction of least resistance. How selfish the man who, having learned, alas! too late, the error of his ways, does not give his younger and more un-

23. Zeitschrift f. Hyg., etc., Leipzig, vol. xxi, 1896, p. 11.

24. "A New Pathogenic Species of Yeast," etc., Ferri and Aruch. Centralblatt für Bakt., etc., 1st Abt., vol. xvii, No. 17, May, 1895, p. 593.

21. Report of Working Party No. 1, etc., p. 30.
22. Report of Working Party No. 1, etc., p. 28.

sophisticated brethren the benefit of his experience. In endeavoring to aid my professional friends in securing the greatest amount of result from the least expenditure of time and the smallest possible wear and tear of gray matter, I feel that I am sowing seed that, beyond peradventure of doubt, must bear fruit.

The royal road to literary fame is plagiarism, a term which was originally invented for the protection of the hypersensitive feelings of certain giants of the ink bottle, who might have been shocked by the less euphonic term, literary theft. The plagiarist bears the same relation to the thief as does the master of shady business methods. We do not call the latter a thief, we call him a "financier."

The old methods of plagiarism are notoriously faulty. The strained efforts of the old style plagiarist to be original have resulted in such a distortion of the plagiarized matter that its own father is wont to pass by his literary offspring without recognizing it. Such methods can only be deplored. The estrangement of literary families is cruel. To an author who takes pride in his original creations the sight of one that has passed through the sawage machine of old fashioned plagiarism is well nigh insupportable. Full many an author has had his life saddened by this experience.

Time was when plagiarism was sometimes condoned because of its skill and the beauty and value of the finished product as it issued from the plagiarist's mill. Shakespeare even has been accused of plagiarism, perhaps justly, but what a stately edifice was built on the matter plagiarized by the world's greatest master of word architecture. What though Boccaccio's literary smut was composed chiefly of thence told tales from the Persian—he amplified and beautified them, and added a touch of salacity that required a higher civilization than the ancient Moslem for its production. Longfellow boldly 'cribbed' the Kalevala, yet what well regulated family can dispense with Hiawatha. The example of these shining lights of literature was pernicious, in that it led others into the error of believing that the soul of plagiarism lies in burying its victim a hundred fathoms deep beneath the plagiarist's own verbiage, it being, however, unnecessary to add to the value of the original production by a flavor of original thought. Out of the use and abuse of the good fairy, Plagiarism, there has evolved a new school of plagiarists whom to know is to admire. The chief tenet of this new school is that plagiarism should be so conscientiously perpetuated that the most capacious author can not accuse the plagiarist of mutilating his work nor of distorting the original matter. Still less could the rightful author fail to recognize his own. The new school has also exploded the fallacy that the quotation mark is a necessary feature of composition.

Strange to say, the new school is not without detractors. Indeed, I should have probably not felt compelled to rise in defense of the modern idea of plagiarism had it not been for one of these detractors, who saw fit to write me a letter calling attention to some of my stuff that had been recently presented in a new and attractive form by a distinguished exponent of the art of modern plagiarism. The letter reads as follows:

MIDWAY, PA., Oct. 11 1903
DR. G. FRANK LYDSTON, Chicago, Ill.

Dear Doctor—Enclosed you will find an example of flagrant plagiarism. I believe the good of the profession demands the exposure of such men.

The article referred to was torn, unfortunately, from some medical journal whose title was not noted, but you can easily trace the article. It was published within the last four months. It is taken bodily from your article on "Gonorrhea in Women," published in your "Addresses and Essays."

I hope to learn that you have traced the article and required the editor to publish the facts. Respectfully yours, etc.,

A. L. RUSSELL, M.D.

The paper to which Dr. Russell alludes is entitled—

THE REMOTE EFFECTS OF GONORRHEA IN THE FEMALE
BY W. E. FITCH, M.D.

Member American Medical Association American Editor's Association
Medical Association of Georgia Medical Society of the
State of North Carolina, Chatham County Medical Association,
formerly Editor Georgia Journal of Medicine and Surgery
SAVANNAH, GA.

The article was read at the last meeting of the Georgia State Medical Society, and appeared in the *Annals of Gynecology and Pediatrics*, September, 1903.

I have rarely been so pained as by the perusal of Dr. Russell's letter. I had considered him one of the discerning ones. His letter proves me in error. I trust he will not be offended at my taking him to task. In the first place, my correspondent is in error as to the work from which the marrow of Dr. Fitch's article was taken. It was chiefly my text book on "Genito Urinary Diseases," published in 1899, that gave him his subject matter, as witness the new terminology which has come in vogue since my collection of essays and addresses was published, in 1892. It could not have been taken from my work on gonorrhea, published in 1892 (Davis' Leisure Library series), because of a similar slight lack of correspondence in the language, although the ideas were the same. As the essay alluded to by Dr. Russell was published eleven years ago and was a pioneer contribution to the subject, the assertion that Dr. Fitch's article was taken from it is by no means flattering to that gentleman. In the assertion were true and Dr. Fitch had slept a few years more, he would have given us a medical Rip Van Winkle.

No, my dear Dr. Russell, you must not allow your prejudices to blind you to the fact that Dr. Fitch is thoroughly up to date. He was manifestly fair to me primarily, for, save the first paragraph, he copied his article from my latest production on the subject.

There is one feature of Dr. Fitch's work that even so capacious a critic as Dr. Russell must admire, viz, the accuracy of the copy. I was greatly delighted to find that even the style had not been impaired. Not that I plume myself particularly on my style, but it is nice to be able to recognize one's own children. They may be strabismic, carrotty-haired, and lopsided, still they are one's own and ink is thicker than water.

As for the verbiage of the copy, it varies from the original only to the latter's advantage. It will be further noted that Dr. Fitch is consistent throughout. He launches boldly into his appropriation, demonstrates his unerring accuracy—for which the editorial habit must be thanked—and sustains the standard he has set for himself for pages and pages.

A comparison of the parallel columns will prove my point.

DR. LYDSTON'S TEXT BOOK.

Gonorrhea in the female as now understood is more often met with in the special field of gynecology than in that of venereal diseases. This would seem, *a priori*, a trifle paradoxical, yet if the more advanced views be correct, the correlatives of gonorrhea and gleet in the male are too frequently regarded as simple and non-venereal in the female. Then, too, the more serious results of gonorrhea in women are at the present time relegated to abdominal surgery, a field that the gynecologist would fain monopolize. A knowledge of these conditions in their various phases, and a just appreciation of their relation to venereal infection, are nevertheless absolutely indispensable to the genito-urinary surgeon.

In my earlier papers on the subject, "Essays and Addresses," 1892, and "Monograph on Gonorrhea," 1892, the construction of the foregoing paragraph was as follows:

Gonorrhea in the female is perhaps more often met with in the field of labor of the gynecologist than in that of the venereal specialist. This would seem from *a priori* consideration a trifle paradoxical, etc.

Dr. Fitch has done me the honor of appropriating the first few lines of this.

DR. LYDSTON'S TEXT BOOK.

The special consideration of the effects of gonorrheal infection upon the female sexual organs is of great practical value, the more especially as the *matrices morbi* of the disease is primarily generated in women. It is a striking clinical fact that gonorrheal inflammation in the female rarely presents con-

DR. FITCH'S ARTICLE.

Gonorrhea in the female, as now understood, is most generally found in the practice of the gynecologist, rather than in the work of the specialist in venereal diseases. This would seem, *a priori*, a trifle paradoxical, yet if the more advanced views be correct, the correlatives of gonorrhea and gleet in the male are too frequently regarded as simple and non-venereal in the female.

DR. FITCH'S ARTICLE.

The special consideration of the effects of gonorrheal infection upon the female sexual organs is of great practical value, the more especially as the *matrices morbi* of the disease is primarily generated in woman. It is a striking clinical fact that gonorrheal inflammation in the female rarely presents consid-

ditions physically analogous to those observed in the male. Vaginitis of venereal origin is exceptional, and urethritis, the only real analogue, is excessively rare in women, and, moreover, does not always occur when virulent vaginitis exists. The rarity of virulent vaginitis, even in that numerous class of unfortunates from whom the male acquires the disease, is only explicable by: 1. The existence of latent gonorrheal processes of a greater or less degree of virulence in the female. 2. The gradual acclimation of the vaginal mucous membrane to the toxic products of organic decomposition slowly formed in the female generative apparatus. If it be accepted that the urethra of the male may become acclimated to morbid conditions existing in the female, as is often seen in the husbands of women who are infectious to any strange male with whom they may sustain sexual relations, it must also be accepted that the vagina becomes inured to contact of the irritating products of morbid conditions of the mucous membrane higher up: i. e., becomes tolerant of autogenetic poisons. This same tolerance explains the resistance of such women to the disease when they are exposed to contagion. 3. The relatively inherent toughness of the vagina, as a consequence of which it may serve as a vessel in which toxic materials can be elaborated without itself becoming infected by them. This inherent resistance does not extend to the endometrium—cervical or corporeal—Fallopian tubes, and peritoneum; hence women may be affected by more or less active gonorrheal processes in these parts while the vagina is apparently healthy.

[A long paragraph is here omitted to save space, being practically the same in both columns.—Ed.]

Noeggerath's theory as originally formulated implies: 1. That nearly all individuals who have at a more or less remote period contracted gonorrhea and have apparently been cured are capable of imparting infection to the female. Thus, most men who have ever had the disease, according to Noeggerath, sooner or later infect their wives.

2. That this infectiousness on the part of the male is in many cases latent, but may possibly become perceptible by the occurrence of urethritis of greater or less degree of severity, as a consequence of sexual intercourse.

3. That consequent upon this latent condition of gonorrhea in the male there occurs a similar latent infection of the wives of those affected.

4. That the majority of women who marry men who have at one time or another had gonorrhea, become sooner or later the subjects of uterine and pelvic inflammations.

[Another long paragraph is here omitted from each column, being practically the same in each.—Ed.]

With regard to the frequency of gonorrhea among the inhabitants of cities, Noeggerath said some years ago: "I do not know what the state of matters in other cities is; I did not know how we stood in New York until I questioned the husband of every woman who came under treatment; but I believe we may apply here the dictum of Ricord, that 800 men in 1,000 have had gonorrhea." He goes further and says: "I believe that I do not exaggerate when I say that gonorrhea in 90 per cent. of cases remains uncured. Of every 100 women who have married men formerly afflicted with gonorrhea, hardly ten remain well, the others are afflicted by some of the ailments

erations physically analogous to those observed in the male. Vaginitis of venereal origin is exceptional, and urethritis, the only real analogue, is excessively rare in women, and, moreover, does not always occur when virulent vaginitis exists. The rarity of virulent vaginitis, even in the *demimonde*, and that numerous class of unfortunates from whom the male acquires the disease is only explicable by: First, the existence of a latent gonorrheal process of a greater or less degree of virulence in the female; second, the gradual acclimation of the vaginal mucous membrane to the toxic products of organic decomposition slowly formed in the female generative apparatus. If it be accepted that the urethra of the male may become acclimated to morbid conditions existing in the female, as is often seen in the husbands of women who are infectious to any strange male with whom they sustain sexual contact, it must also be accepted that the vagina becomes inured to the irritating products of morbid conditions, of the mucous membrane higher up: i. e., becomes tolerant of autogenetic poisons. This same tolerance explains the resistance of such women to the disease when they are exposed to contagion.

The relative inherent toughness of the vagina, as a consequence of which it may serve as a vessel where the toxic materials can be elaborated without itself becoming infected by them. This inherent resistance does not exist in the endometrium, cervical or corporeal, Fallopian tubes, and peritoneum; hence women may be affected by more or less active gonorrheal processes in these parts while the vagina is apparently healthy.

Noeggerath's theory as originally advanced teaches:

That nearly all individuals (men) have at a more or less remote period of their lives contracted gonorrhea; have apparently been cured, but are still capable of imparting infection to the female.

That this infectiousness on the part of the male is in many instances latent, but may possibly become perceptible by the occurrence of a urethritis of a greater or less severity, as a consequence of sexual intercourse.

That consequent upon this latent condition of gonorrhea in the male there occurs a similar latent infection in the wives of husbands thus affected. . . .

That the majority of women who marry men who have at one time or another had gonorrhea, become sooner or later the subjects of uterine and pelvic inflammations.

Of every hundred women who have married men formerly affected by gonorrhea, hardly ten remain well, the others are afflicted by some of the ailments

Making due allowance for the possibility of statistic errors and exaggerations in the orig-

which I have attempted to describe."

Making due allowance for statistic errors and exaggerations in the original assertions of Noeggerath, it must still be admitted that gonorrheal infection may cause any or all of a series of disastrous results in the female pelvic organs. Thus, metritis, endometritis, salpingitis, hydrosalpinx, pyosalpinx, ovaritis, parametritis, pelvic peritonitis, menstrual disorders and sterility may occur, according to the age and severity of the process and the character of the structures affected.

[Another paragraph is here omitted, being practically the same in each column. There is also omitted from each column some paragraphs which do not appear in the other and are therefore immaterial.—Ed.]

The disease is normally self-limited, and if complications can be prevented, not only is recovery likely to be secured within a reasonable period, but prolonged infectiousness may be averted. The higher the process extends the more prolonged and insidious will be the infection. The chief aim of the surgeon should therefore be the prevention of the extension of infectious inflammation. Rest is the best means of accomplishing this, sexual rest especially is of the greatest importance. Vaginal douches of permanganate of potassium, 1 to 2000, or 1 to 1000, are indispensable. Mercury bichlorid and silver nitrate are valuable, but not so trustworthy as permanganate of potassium. Urethritis and vesical complications demand balsams and alkalies internally, with the permanganate irrigations. Later on silver nitrate irrigations may be substituted with advantage. Instillations of permanganate or silver solution with a syringe may be useful, especially when the process shows a tendency to become chronic.

Anodynes and sedatives may be indicated in some cases, especially if complications occur or sexual irritation be marked.

In the first paragraph of the parallel columns it will be noted that Dr. Fitch has substituted the word "practice" for "field of labor," and "specialist in venereal diseases" for "venereal specialist." The implied adverse criticism of my verbiage is accepted in the same spirit in which it is given. The delicate compliment to the specialist in venereal diseases implied in the intimation that Dr. Fitch does not consider him "venereal" is worthy of a Chesterfield.

The insertion of the word "*demimonde*" in the second paragraph shows a literary finish to which Dumas himself, the coiner of the word, were he living, could not take exception. The word lightens up the gloom of the otherwise turgid and heavy style for which I am noted, and illumines the pages with a brilliant forecast of future improvement in my composition for which I shall never cease to thank my confrère. I use the word *confrère* advisedly, not to be outdone in generosity, for I am sure my learned friend could ill spare the word *demimonde*, and I, therefore, reciprocate from my own scanty store of "furrin things."

Dr. Fitch has really gone out of his way to be generous to me. He has given me credit for views which I quoted from Noeggerath. There may be those who will suspect Dr. Fitch of a lack of good faith. He has misspelled my name, and, considering his accuracy as a copyist, that is a bit suspicious.

That Dr. Fitch is impartial is shown by the fact that he has appropriated a paragraph of Noeggerath's stuff. Perhaps this was to temper my self-conceit. I confess it was somewhat of a dampener to find that Noeggerath's verbiage was so essential a part of my original text that it could not be copied without it.

inal researches of Noeggerath and other workers in this field, it must still be admitted that gonorrheal infection may cause any or all of a series of disastrous results in the female pelvic organs, viz., metritis, endometritis, salpingitis, menstrual disorders and sterility may occur, according to the age and severity of the process and the character of the structures affected.

I was especially pleased to note that Dr. Fitch has quoted Bumm (Bumm is spelled "Burum," and Veit's "Handbuch" is presented as "Voit's") on the evolution of the gonococcus. Had he been alive to the possibilities, however, he could have found some ideas on this subject also in my text-book. He might have used these ideas as original matter, especially as my first papers on the subject were published about fifteen years ago, and appeared in my text-book four years ago. It would have been safe to use them, for they did not have a foreign label, and the American profession would have given such scant credit as it usually accords to home-raised ideas to Dr. Fitch. Taken all in all, Dr. Fitch's article is a most accurate presentation of the views and language expressed in my text-book. His conservatism in the matter of reconstruction of language is admirable. If his editorial training is responsible for his accuracy and conservatism, would that all editors used the same ink. The wisdom of conservatism as displayed by Dr. Fitch is especially evident if one considers how important it is not to garble another's statements on a scientific subject. Wisdom, accuracy, delicacy, good taste and—I was about to say, literary finish, but modesty forbids—what more would the critic have?

It occurs to me in passing that Dr. Fitch may have been actuated in part by the notion that I was dead. If so, his desire to perpetuate my work by putting it forth in such form as to be unmistakably mine, is highly commendable. He must, however, be more wary of accepting as authoritative rumors based on that fraternal wish which is father to the thought and a fungus on the sturdy old oak, competition. Prognoses given as a matter of professional courtesy and esteem are sometimes unreliable, not to say disappointing. It will, of course, be understood that I can not undertake to discuss Dr. Fitch's article. I can not attack it, because I have not yet changed the views expressed in the book from which the bulk of the article was taken. I can not particularly commend its scientific merits, lest I be accused of crass egotism.

If the easy road to medical writing pointed out in this article proves of value to any struggling aspirants for literary and scientific fame, I shall be well rewarded. If all who in the future copy the work of others are stimulated to emulate Dr. Fitch's example and copy so conscientiously that no quotation marks or allusion to the rightful author are necessary, medical literature will owe me much. My chief hope is that this communication may be incorporated in the history of American medicine as a clinical contribution to the study of—well, hypertrophy of literary gall.

New Appliance.

A SIMPLE AND EFFECTIVE KNOT.

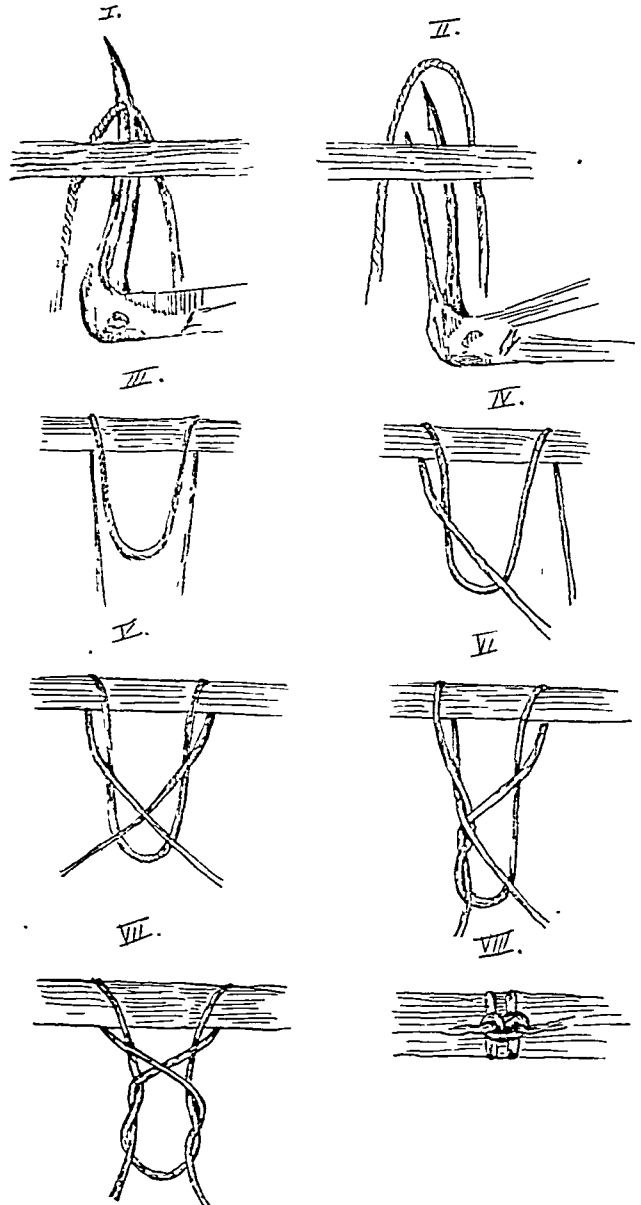
H. L. NAHIN, M.D.
MILWAUKEE, WIS.

In tying the ovarian or uterine artery or any part of the broad ligament, the danger of secondary hemorrhage is always great. It is chiefly due to some defect in ligating the pedicle. The first loop formed in the reef or surgeon's knot is usually disturbed and loosened the minute the pressure of the surgeon's fingers is removed; while making the turn of the second loop the ends are made tense and the first loop is pulled up and consequently relaxed.

To overcome this difficulty I devised a knot which is simple in execution and safe in its not getting relaxed or loosened after it is secured in place, and which, if placed two centimeters from the cut end, will never slip off.

In tying the ovarian artery for instance, a loop of a double ligature is passed with the ligature carrier through the clear space in the broad ligament from before backward, as shown in Fig. 1; the loop is then released from the ligature carrier, as shown in Fig. 2; it is then brought forward by the assistant over the top of the broad ligament, as shown in Fig. 3; the free ends of the ligature are now separated by the surgeon holding the right end in the right hand and the left end in the left hand; he now crosses the left free end of the ligature to the

right over and above the loop as shown in Fig. 4. Then he crosses in the same manner the right end of the ligature to the left over the loop as shown in Fig. 5. Now the free right end of the ligature is in the left hand, and the left end in the right hand *over the loop*. The surgeon now carries the right end of the ligature around behind the loop and forward *through* the loop to the left border of the inside of the loop, as shown in Fig. 6, and the left end in the same manner to the right border of the inside of the loop as shown in Fig. 7. The ends are now pulled snugly, separated, and with the ends of the index fingers pulled and at the same time pressed on the knot. An additional reef knot may be applied over this knot, but it can be dispensed with, as this knot is firmly interlocked and any



pressure or pulling up, down or sideways tends to bring the interlocked fibers of the ligature more snugly together.

Fig. 8 shows the knot complete after it is tied.

The same knot can be utilized with ease and safety when the broad ligament is to be ligated in sections. In such cases all it is necessary to do is first to bring out the loop with the ligature carrier, which is given to the assistant; then the free ends of the ligature are carried through another point embracing all the structures to be ligated, and the same procedure is followed as in the first description.

545 E. Water St.

Prophylaxis in Pediatrics.—There is no more promising field in medicine than the prevention of disease in childhood.—Holt.

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ACUTE PANCREATITIS.

The acute inflammations in the pancreas have been generally recognized as the source of trouble in the upper part of the abdomen only in very recent years, practically all important contributions on this subject having appeared since the publication of the lecture on this subject by Fitz of Boston in 1889. Interest in this affection has been specially stimulated since recent experimental studies have so definitely shown the connection between fat necrosis and pancreatic disease, for until this was recognized, fat necrosis was considered by many a distinct disease, instead of a pathognomonic symptom of pancreatitis. The evidence of association between gallstones and pancreatitis so clearly shown by Opie's observations, added another important reason for early operation in gallstone diseases, and attracted widespread attention, so that at present few surgeons would overlook the possibility of acute pancreatitis in any case in which acute symptoms were localized in the upper abdomen.

Most recent writers agree that the clinical picture is characteristic enough to make a probable diagnosis of acute pancreatitis quite within the range of possibility. The intense, colicky, epigastric pain which later becomes general; the intractable vomiting; the abdominal distention, particularly above the umbilicus; the tenderness and rigidity together with marked collapse, small and rapid pulse and often cyanosis are mentioned by all. The diagnosis is still more probable if this group of symptoms occur in a middle-aged man who is corpulent and has gastro-intestinal catarrh, arteriosclerosis or a history of alcoholism, gallstones or injury. The differential diagnosis, then, lies between pancreatitis and the other causes of acute abdominal symptoms in this region, as intestinal obstruction; perforating ulcer of the stomach or duodenum; ruptured gall-bladder or bile ducts, a phlegmonous cholecystitis and a gangrenous appendicitis; a positive diagnosis is generally admitted to be very difficult if not impossible in most cases.

With regard to the desirability of surgical treatment and the time at which it is best undertaken, there are wide differences of opinion. Some advocate immediate operation, others advise waiting until collapse passes off, while some even advocate waiting until a local abscess forms. Bearing on the question of treatment two recent papers are of considerable importance. Woolsey¹ reports three cases, all quite ill at the time of

operation, but all of whom recovered after simple evacuation of a considerable quantity of fluid from the peritoneal cavity and drainage. Pels-Leusden² also reports three cases operated on in practically the same manner, with recovery of two and temporary improvement in the third case. Two of the patients were practically moribund at the time of operation, but improvement was immediate in all the cases after simple evacuation of the large accumulation of exudate and drainage. Both of these writers advocate early evacuation of the peritoneal fluid and the contained septic material and drainage. A small median incision under cocaine anesthesia is all that is necessary, and more extensive exploration is to be avoided in a patient in such a collapsed condition. Early operation, sometimes under cocaine, is also recommended by Robson and Moynihan,³ and was advocated by Hahn, who operated successfully in a case similar to those reported.

Unfortunately, a large proportion of patients who suffer from the severer forms of acute pancreatitis will die whatever method of treatment is adopted, but we believe that the early and simple operative procedure recommended above is the rational method to follow in these cases, for undoubtedly, as Woolsey says, a large percentage of the patients will die in waiting for a more favorable time for operation, just as would be the case if we were to wait to drain an appendix abscess rather than to take the disease in its early acute stage. Moreover, practically all agree as to the impossibility of making a positive diagnosis between acute pancreatitis and several other acute abdominal affections, all of which demand immediate operation if the life of the patient is to be saved. Quite probably the percentage of recoveries will be greater when such prompt and simple operative intervention is adopted as in the cases reported above.

THE SIGNIFICANCE OF INFECTION, HEREDITY AND PREDISPOSITION IN THE DEVELOPMENT OF PULMONARY TUBERCULOSIS.

It is a well-known fact that pulmonary tuberculosis is more common among the poor, the careless, the ignorant and the depraved in a community than among those belonging to the opposite class. It is likewise an authenticated observation that the disease seems to exhibit a predilection for certain houses, or rather that a disproportionate number of cases occur in such houses. The natural inference is, therefore, that special opportunities for transmission exist under such conditions, but a question has been raised as to the part played in this connection by heredity and predisposition. It has, for example, been noted that not all persons equally exposed are attacked; that certain families especially suffer, and that women are often the victims of the disease in connection with the puerperal state and lactation.

2. *Deutsche Zeitschrift für Chirurgie*, September, 1903, vol. lxx. p. 183.

3. *Diseases of the Pancreas and Their Surgical Treatment*, 1903.

1. *Annals of Surgery*, November, 1903, page 726.

Some observations have been made into the questions at issue, but they have principally related only to tuberculous patients. Accordingly, Dr. E. Schwarzkopf¹ studied 354 female patients over 13 years of age—160 with and 194 without pulmonary tuberculosis—presenting themselves at the medical clinic of the University of Marburg. Men and children were excluded because of the etiologic significance of occupation, change in residence and association with large numbers of persons in the former and the relative rarity and often the difficulty of recognition of the disease in the latter, while the conditions referable to the women could be better noted and controlled. Only cases were considered in which the diagnosis was clear, merely suspicious cases being rejected.

Of the total number, 145—10.96 per cent.—had been exposed to infection by association with tuberculous patients, sometimes for years, while in 209—59.03 per cent.—no such exposure could be made out. Of the women that had demonstrably associated with tuberculous patients, 98—67.58 per cent.—became affected with pulmonary tuberculosis, and 47—32.41 per cent.—remained well. Of those that had not associated with tuberculous patients, 62—29.66 per cent.—became tuberculous, and 147—70.33 per cent.—remained well. Of the tuberculous patients, 98—61.25 per cent.—had demonstrably associated with tuberculous patients, and of the non-tuberculous patients, 47—24.22 per cent. Those that had lived together with several tuberculous patients, at once or in succession, suffered in larger number than those that had been exposed to but a single source of infection. The danger of such association was found to be the greatest between the fourteenth and the fortieth year. Infection during childhood was responsible with comparative rarity for pulmonary tuberculosis developing after the thirteenth year.

The evidence of hereditary acquisition was, according to Schwarzkopf's findings, no greater in tuberculous patients than in non-tuberculous patients. In fact, he claims, it was actually a little greater in the latter than in the former. The greater danger from the mother than the father is due to the fact that the former is more in the house, and thus is a more prolific source of infection. Of pregnant, parturient and nursing women, while the number exposed to infection was the greater, as compared with those not so exposed, the difference was not so marked as with respect to other influences.

The results of these observations are summed up by him as follows: In the development of manifest tuberculosis of the lungs, infection with tubercle bacilli, such as is brought about by association with uncleanly tuberculous patients under unfavorable external conditions, plays an important part. In women suffering from tuberculosis antecedent, opportunity for infection could be demonstrated in 61.25 per cent. of the cases, and in

only 24.22 of non-tuberculous women. Almost every person—at least in the unfavorably situated portion of the community—is afforded opportunity for the taking up of isolated tubercle bacilli. In order, however, that pulmonary tuberculosis may develop repeated infection is necessary in the majority of cases. The danger of acquiring tuberculosis increases with the number of patients in the vicinity and with the duration of the opportunity for infection. Infection in childhood gives rise with relative rarity to pulmonary tuberculosis developing after the thirteenth year of life. This takes place much more frequently if renewed infection occurs. The taking up of tubercle bacilli in the period between the fourteenth and the fortieth year of life is particularly dangerous, and the danger increases up to about the age of forty years. The danger of a tuberculous patient to those by whom he is surrounded disappears when the patient observes suitable precautions with respect to coughing and expectorating. Schwarzkopf holds that mere hereditary predisposition has not the slightest influence on the development of manifest pulmonary tuberculosis, a wholesale generalization that appears hardly justified by so limited a series of observations. The existing opportunity for infection is, in his opinion, the determining factor, and on it the development of the disease is dependent. (Why such respectable percentages of the non-exposed became tuberculous and of the exposed remained well is not explained.) A number of injurious influences, in women first and foremost parturition and sedentary occupation, in men especially, certain injurious influences relating to the occupation, are capable not alone of aggravating an existing tuberculosis, but also apparently of constituting a predisposing factor in the development of pulmonary tuberculosis.

Schwarzkopf's article is an interesting and valuable, but not a conclusive contribution to the literature of the still unsettled problems of the individual etiology of tuberculosis.

THE ETIOLOGY OF YELLOW FEVER.

Not long ago the Yellow Fever Institute of the U. S. Public Health and Marine-Hospital Service issued the Report of Working Party No 1, in which is described a protozoan parasite found regularly in certain mosquitoes that had bitten yellow-fever patients. This organism is described in detail and given the name of *Myxococcidium stegomyia*. On the face of it this report appeared to be one of the most important contributions yet made to the much-vexed question of the etiology of yellow fever. The question was, Would it stand the test of scientific criticism?

In this number of THE JOURNAL Dr. James Carroll of the U. S. Army brings forward certain facts that tend to weaken one's confidence in the soundness of the conclusions of Working Party No. 1. Dr. Carroll shows that the fusiform stage of the *Myxococcidium stegomyia*

1. Deutsches Archiv für klinische Medizin, LXXIII, No. 1-2, p. 73.

can not be connected with the transmission of yellow fever, and that the organism is a yeast fungus found quite commonly in mosquitoes fed on overripe bananas purposely besmeared with yeast culture. Added to this we have the important fact that Dr. Carroll has not been able to find the organisms in mosquitoes known to have reproduced yellow fever in human beings after they had bitten yellow-fever patients early in the disease, the insects having been fed only on blood, dry sugar and water. Undoubtedly the members of Working Party No. 1 will not suffer Dr. Carroll's destructive criticisms to pass unchallenged, and their reply will be awaited with much interest.

There is another episode connected with the discovery of *Myxococcidium stegomyia* that adds further variety to the history of Working Party No. 1, and that is the assertion by J. C. Smith of New Orleans that he was "the first to have interpreted correctly and given value to the things found in the bodies of the mosquitoes infected from yellow-fever patients." Mr. Smith has submitted the assertion that in the Report of Working Party No. 1 he has not been given full recognition for his services in working out the history of the alleged parasite in the mosquito.¹ In order to vindicate fully his assertion, Mr. Smith, or some one else, must establish that the bodies seen in the infected mosquitoes are animal parasites. Mr. Smith and Working Party No. 1 should now join hands again, this time in the effort to meet Dr. Carroll's attack; then, in the event of successful defense of their assertions, they may turn to the less serious task of satisfactorily adjusting the dispute as to recognition. On the other hand, if the *Myxococcidium stegomyia* proves to be a harmless yeast, then this attempt to solve the etiologic problem of yellow fever, like so many others before it, will pass in silence into history.

A NEW DEPARTURE FOR CITY HEALTH BOARDS.

One of the most valuable contributions to the subject of municipal sanitation is the recent introduction by the Department of Health of New York City of trained nurses for public-school service and for visiting contagious disease cases. As is usual in public undertakings, the initiative and early experimenting were due to private individuals. The residents of the Henry Street Nurses' Settlement, situated in one of the most crowded quarters of New York City, became deeply impressed by the neglect of contagious cases, which naturally can not be treated in the ordinary course of district nursing.

In a report given in *Charities*, L. L. Dock, who is herself one of the nurses in this settlement, states that the supervision of the department of health is as complete and strict as is possible under the circumstances. Physicians are asked to immediately report contagious cases, and quarantine measures are adopted. Leaflets in several languages are distributed, giving explicit di-

rections for domestic disinfection. In throat cases cultures are taken, and antitoxin is furnished free, and it is also administered by a physician from the department in response to calls from any part of the city. A medical inspector visits each contagious case regularly once a week to watch the progress and order disinfection. When the case terminates the rooms are disinfected, mattresses and bedding sterilized without cost to the patient's family, and the landlord is directed to clean and paint.

For three months last spring the nurses' settlement kept a nurse on contagious cases exclusively. Last June the department of health took over this service and organized municipal district nursing for contagious diseases throughout a definite area which could be managed by three nurses. A home was rented for them next the city diphtheria hospital, where they report daily. The department had six nurses at work among tuberculosis cases even earlier than this.

It is too soon to expect reports of large results; but no one familiar with tenement life in a great town can question the value of this service as an auxiliary to a general system of hospitals for contagious diseases. Such a system of hospitals is lacking in every American city so far as we are aware. It is still little more than planned in New York, and it will probably be long before the city possesses bed space for 75 per cent. of the cases, as we are told is the better fortune of London. The use of the visiting nurse is a unique and promising departure.

Even more unique and certainly more constructive is the use of the visiting nurse as an adjunct to the medical inspection of the public schools. Nurses are now attached to forty public schools in New York. Children who have trachoma, pediculosis, ringworm, eczema and other minor ailments which properly exclude them from school, are visited at home, mothers are instructed in caring for the diseases and the children are returned to school as promptly as possible. This service was begun when the alarming spread of trachoma among public-school children rendered necessary a school children's hospital for operative cases. Later the effort was directed to discovering the cases early enough to obviate the necessity for operation, and the system has gradually extended.

One of its best features is the early return of the children to school after absence for sickness and the consequent marked decrease in absenteeism and truancy. Under the usual system of medical inspection, the child is sent home with directions to have the scalp or eyes or ears treated. It is safe to say that in nine cases out of ten, the mother will not carry out the directions, and the case lapses into a sort of legalized truancy of indefinite duration justified by a more or less chronic ailment. Under the new system the nurse follows the child to its home, sees that the treatment is carried out

1. *Science*, 1903, xviii, 530-535.

and that the child duly returns to school. There is another large element of value in the hygienic instruction which the mother inevitably absorbs.

A RIGHTEOUS VERDICT AGAINST AN ANTIVIVISECTIONIST.

We have frequently called attention to the exaggerated statements and outrageous lies—no milder term will suffice—of the antivivisectionists, both in this country and in England, and to the uselessness, for this reason, of attempting to answer any of their so-called arguments. They make malicious and vindictive statements and these are reiterated in both countries, no matter who may be injured thereby, or whether or not they have been proved false. Without referring to more than one case, we cite that of Sir Frederick Treves, who has been, and still is, quoted as holding to views that he has repeatedly and publicly denied.

Last week in London, after a trial before Baron Alverstone, Lord Chief Justice of England, a verdict of \$10,000 damages was rendered against one of the leading antivivisectionists of England—an event that, it is to be hoped, will have a tendency to check the zoöphiles in their "lust for slander." The defendant in the case was Stephen Coleridge, son of the late Lord Chief Justice Coleridge and a relative of the poet. He is the secretary of the London Antivivisection Society, and a leader in the perpetual antivivisection movement of Great Britain. At a public meeting held in London last May, he charged Dr. W. W. Baylis, a physiologist of London, with gross and deliberate cruelty while conducting experiments on dogs in his laboratory. It was alleged that no anesthetic had been administered, and that the struggles and sufferings of the animals were heartrending, etc. Dr. Baylis resented the imputations made against him, and did what it would be well for others in like circumstances to do, commenced proceedings for libel and slander. These have resulted in a verdict in his favor and the substantial damages of £2,000. In the trial it developed that Coleridge's only authority for his allegations were the statements of two young women who attended a lecture given by Professor Baylis at which demonstrations were made on a dog. The prosecution proved that the A. C. E. mixture was used through a laryngeal tube, and that the dog was thoroughly anesthetized.

According to cable reports, the verdict was a popular one, and was received with acclamation not only in the court room but throughout London. This is certainly gratifying, for experimental medicine in Great Britain has been practically throttled for years by absurd restrictive legislation. A man of Coleridge's social standing makes him more powerful for good or for harm than one of less prominence, but when he made public charges based on the statements of two women, without taking the trouble to verify the statements and without giving the one accused a chance to make an explanation, he was doing what the average antivivisectionist is in the

habit of doing. Perhaps with prospective damages staring them in the face, Coleridge and his friends will be more chary in the future of making serious charges on evidence which will not stand legal scrutiny.

Professor Baylis is to be congratulated on having the courage to defend his good name, and should be thanked by all who have the interest of science at heart for the fight he made against these rabid and bigoted opponents of the splendid work that is being done in behalf of progressive medicine and for the relief of human suffering.

AN UNPROVED LIBEL ON THE PROFESSION.

During the first day's trouble with the Chicago striking street-car men, one of the Chicago papers printed a paragraph to the effect that when one of the non-union workers was injured and taken to a nearby drug store, the physician who was called to attend him refused to do so. The report stated that the physician asked the man for his union button and on being informed that he had none and did not belong to the union, the physician refused to do anything for him. We immediately made inquiry as to the truth of this and found that the information had been telephoned in by a reporter and that this reporter got his information from a druggist. The druggist on being questioned, acknowledged that he knew nothing about it. The probability is that the report was not true. We sincerely hope that no physician would so far forget himself and his duties to humanity as to refuse to render professional aid, no matter who the injured might be or what the circumstances. Some of the methods of the striking trades unionists are only worthy of the most sedulous avoidance—above all by honorable physicians.

A SUGGESTION REGARDING RECIPROCITY.

Elsewhere we print a communication from one of the members of the Board of Registration and Examination in Dentistry of New Jersey and also a resolution passed by the National Board of Dental Examiners, a voluntary body as we understand it, composed of members of the different state dental examining boards. The resolution contains a suggestion which we think might well be applied as one of the educational requirements for registration by those state licensing boards which are trying to arrange for reciprocity with others. The suggestion is that when an individual who is licensed in one state desires to move to another, he shall take with him a certificate from the registration board of his own state. If a man has a good standing among those with whom he has been living and can be vouched for by his state board as having conducted himself as he should and as being worthy to continue practice, a certificate of this ought to carry weight. We do not wish to suggest that this certificate alone should be all that is necessary, but it certainly would be a good thing to require on the part of the licensing boards. The proposition of having a sort of letter of dismissal from one state to another is a useful one in any case, but especially as a qualifying condition on which the applicant may be granted a license.

NEWSPAPER MEDICINE.

Newspaper medicine—of course we mean medical matters as described in newspapers—is sometimes correct, often startling and usually funny. Occasionally we find items that are both startling and funny, and last Sunday's *Chicago Tribune* contained one of these. It came in the form of a cable dispatch from the London correspondent. The item has several lines of display heads, the leader being: "Rivals Surgery Done by Lorenz." We are told that a Dr. Rabey of London contends that:

Numbers of hip disease cases are really nothing more than hip dislocations, which cause the leg to wither as the muscles become dry, and the natural oil which ought to feed the leg forms abscesses. When there are diseased bones, he admits he can do nothing. His method is to reset the dislocated bone after softening the tissues and ligaments around the affected part. Dr. Rabey, in contrast with Lorenz's half-hour performs the operation in from three to five seconds, and also instead of making his patients lie from six to twelve months in plaster paris Dr. Rabey promises to have them up walking about inside of forty-eight hours.

Further on we are told:

He operated yesterday on a youth of 18 who, when he was 11, was in the hospital for six months for hip disease, and since then he has walked on crutches. His left leg is four inches shorter than the right. Several weeks ago he commenced preparing for Dr. Rabey.

The preparation in this case consisted of the application of poultices of olive oil and mustard to the hip. With such preparations, of course the operation was greatly simplified, and so we need not be surprised when it is stated:

The operation yesterday lasted three and one-half seconds, immediately rendering the leg two and one-half inches longer. "He will be able to walk on Sunday" was Dr. Rabey's parting observation.

We are further told that Dr. Rabey "has dealt successfully with 154 similar cases and thrice failed, but in each instance the case proved to be genuine hip disease." Wonderful Rabey! poor Lorenz!!

Medical News.

ARKANSAS.

No Collusion Allowed.—The Government Medical Board at Hot Springs has authoritatively stated that any registered physician found to be assisting unregistered practitioners, by writing bathing directions or in any other way, will be rigidly dealt with.

Officers Elected.—At the annual meeting of the Pulaski County Medical Society, held at Little Rock, November 2, the following officers were elected: President, Dr. Strodder U. King; vice-president, Dr. John H. Kinsworth; secretary, Dr. Charles C. Stephenson, and treasurer and librarian, Dr. William C. Dunnaway, all of Little Rock.

Dr. Drennen Vindicated.—Immediately on the return of Dr. C. Travis Drennen from the East he demanded trial in the Circuit Court on the indictments recently returned against him by the grand jury, charging unprofessional conduct. The case was promptly dismissed by the court at the request of the prosecuting attorney on the ground that there was absolutely nothing in the testimony of the prosecuting witness which would warrant a conviction. The evidence was to be the same as that in the case of Dr. Thomas E. Holland, which was tried by jury a few days before, in which the judge instructed the jury to return a verdict of not guilty without leaving the jury box. These two gentlemen were indicted on the unsupported testimony of a man, confessedly in the nefarious business which they have been actively seeking to suppress. Hot Springs physicians are accordingly congratulating themselves

on this signal victory over the "doctor-drummers," and on the complete exoneration of those who have been endeavoring to remove this reproach from the town.

CONNECTICUT.

Personal.—Dr. Charles S. Stern, Hartford, has sailed for Europe.—Dr. Charles W. Holbrook, health officer of East Haven, has resigned.—Dr. Henry Fleischner, attending physician at New Haven Dispensary for quarter of a century, has resigned.

Anti-Tuberculosis Lectures in Schools.—The members of the New Haven Medical Association and the superintendent of the public schools have arranged to give a series of lectures on tuberculosis, its cause and prevention. The first lecture will be given late in this month or early in December.

Eddyite Not Appointed Guardian.—Judge Cleveland of New Haven recently refused to appoint an Eddyite as guardian to the nine-year-old daughter of Isaac W. Stiles of New Haven. The judge made this decision after asking some questions as to prospective conduct in case of the serious sickness of the child.

October Mortality.—During October, 1,123 deaths occurred in the state, an annual death rate of 14.8 per 1,000. The deaths numbered 37 less than in September, and 10 less than in the same month of 1902, but 14 more than the average number of deaths in October for five preceding years. Infectious diseases, including diarrhea, caused 43.9 per cent. of the total mortality.

Infectious Diseases in October.—Smallpox—Putnam reports 8 cases; measles—255 cases are reported from 20 towns; scarlet fever—103 cases are reported from 32 towns; diphtheria—141 cases are reported from 36 towns; whooping cough—94 cases are reported from 13 towns; typhoid fever—168 cases are reported from 38 towns, and only 25 cases of consumption are reported during the month from 11 towns.

Dispensary Election.—At the annual meeting of the New Haven Dispensary, Dr. Charles A. Lindsley was elected president; Dr. John S. Ely, secretary; Drs. Francis Bacon, Charles A. Lindsley, Oliver T. Osborne, Louis S. De Forest, Charles J. Foote and Henry Fleischner, consulting physicians; Drs. William H. Carmalt, Henry L. Swain, Arthur L. Alling, John S. Ely, Robert E. Peek, Louis B. Bishop, Otto G. Ramsay, William Springer and Ralph A. McDonnell, attending physicians, and Dr. Thomas H. Young, apothecary.

ILLINOIS.

Infectious Diseases.—Diphtheria is said to be epidemic near Platteville, in Kendall County.—Typhoid is epidemic in Canton, where at least 60 cases exist.—In Streator there are said to be 6 or 8 cases of smallpox.—Dr. E. S. Baker of the State Board of Health has gone to Tuscola, Camargo, Pinkstaff and Mt. Carmel to inspect the sanitary arrangements, with special reference to the reported cases of smallpox.—The smallpox situation in Belleville is encouraging. It is believed to be under control, and about 250 individuals are being vaccinated each day.

Chicago.

Fire in Dissecting Room.—A fire in the anatomic department of the building of the Northwestern University dental department, November 20, damaged the building to the extent of \$35,000.

Dr. Musser at the Chicago Medical Society.—Dr. John H. Musser, President-elect of the American Medical Association, who was in Chicago at the conference of the officers of the sections of the American Medical Association, read a paper in the evening before the Chicago Medical Society, after which he was tendered a reception.

Personal.—Dr. E. H. Ruediger of the Memorial Institute for Infectious Diseases, Chicago, has been appointed assistant in the Serum Institute, Manila, P. I.—Dr. Albert C. Hemmett was thrown from his buggy and seriously injured in a collision with an electric car, November 8.—Dr. Chas. O. Young has severed his connection with Augustana Hospital.

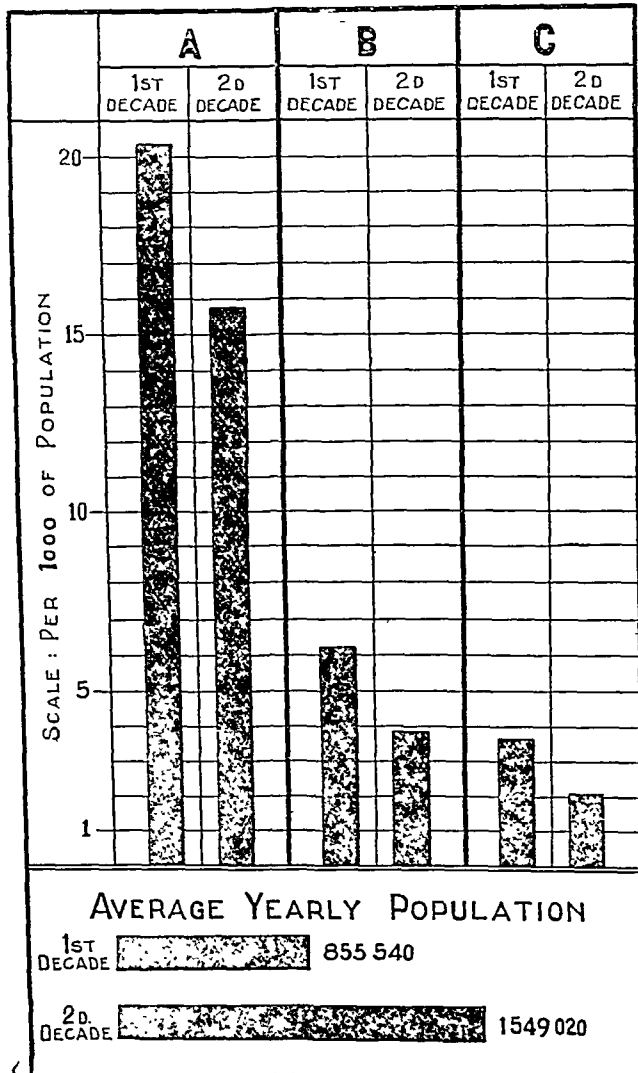
Examination for Assistant Warden.—Fourteen applicants took the examination for assistant warden of Cook County Hospital, and of these four were successful. Dr. John B. Colwell obtained the highest mark and received the appointment. The other three on the eligible list in order of excellence are Drs. Arthur W. McClave, Victor Lespinasse, Chicago, and Joseph M. Kearney, Elgin.

Probert Fined.—The notorious Arthur C. Probert, vice-president of the "Christian Hospital," who was arrested on complaint of Dr. John B. Murphy and others on the ground that

their names were being used without authority on certificates of the hospital to induce other physicians to become members of the staff on payment of fees of varying amount, was fined \$500 and costs, November 21, for fraudulent use of the mails.

Reduced Mortality.—Excepting pneumonia, all the acute infectious diseases show marked reductions in the mortality returns for the week ended November 21. Deaths from diphtheria are fewer than in any week since the schools opened. The number of cases reported is 30 per cent. less than in the previous week and the scarlet fever cases 26 per cent. less. No new cases of smallpox were discovered during the week. The total deaths for the week were 467, an annual death rate of 12.91 per 1,000. Pneumonia still heads the list, with 70 deaths, and then follow heart disease, with 63, and consumption, with 45.

Chicago Mortality for Twenty Years.—Dr. Arthur A. Reynolds, health commissioner, in a recent talk before the Sociology Club on "Sanitary Conditions in Chicago," briefly



rehearsed the sanitary, or rather unsanitary, conditions as they existed 65 years ago and compared them with the conditions of the present day. He presented a chart, which is here with reproduced, which shows graphically the death rates during two decades—the first from 1883 to 1892, and the second from 1893 to 1902. The chart is explained as follows:

A.—The death rate at all ages: In the first decade it was 20.35 per 1,000 of population. In the second decade it was 15.77—a decrease of 22.5 per cent. At the earlier rate—20.35 per 1,000 of population—there would have been 315,225 deaths during the last ten years, or 70,867 more than actually occurred.

B.—The death rate of infants under 1 year of age: First decade this was 6.13 per 1,000 of total population; in the second decade it was 3.93—an increase of 36.1 per cent. or an equivalent of 34,270 fewer infant deaths in the last ten years.

C.—The death rate of young children, between 1 and 5 years of age: It was 3.58 per 1,000 of total population in the first de-

cade; it was 2.06 in the second—a decrease of 42.4 per cent., or 23,537 fewer children's deaths since 1892.

The "Average Yearly Population" of the last decade was 81 per cent. greater than that of the first—855,541 in the first; 1,549,019 in the last.

These figures are due in part to the bettered milk supply, antitoxin treatment of diphtheria, prophylaxis of tuberculosis and the educational propaganda of the Chicago Board of Health.

MARYLAND.

The Baltimore County Medical Association met November 19 at Halstead's, Park Avenue Heights. "State Organization of the Medical Profession" was discussed by Drs. S. T. Earle, J. M. B. Rowland, William J. Todd, G. Milton Linthicum and Joseph Giehner.

Baltimore Personals.—Dr. H. Barton Jacobs has returned from Newport.—Dr. William Osler has been elected president of the new Sydenham Society of London.—Drs. W. Ruice and B. W. Briscoe, resident physicians at Bayview Hospital, have accepted positions in West Virginia and western Maryland.—Dr. Howard A. Kelly will spend his holidays in Florida, as the guest of the chief of the Seminole Indians.

MASSACHUSETTS.

Bequest.—By the will of Elizabeth A. Whitney the New England Baptist Hospital benefits to the extent of \$5,000.

Insane Hospital Regulations.—At a meeting of the Massachusetts State Board of Insanity, November 17, the matters of employing female nurses for insane men and of permitting families of married employes to live in the institutions were both favored, provided the expense did not prove too great.

Compulsory Vaccination Held Legal.—The Supreme Court of Massachusetts has declared that the law governing compulsory vaccination is constitutional and confirmed the sentence of the Municipal and Superior courts against a man named Mugford, who refused to be vaccinated or to allow his child to be vaccinated.

Hospital Dedicated.—Mt. Sinai Hospital, the new institution supported by Boston Jews, located at 17 Stamford Street, was dedicated November 22. It is a large four-story building, which has been remodeled to accommodate the out-patient department formerly located on Chambers Street. There are both medical and surgical wards with rooms for house physicians, matron and nurses.

Newburyport Hospital.—The new hospital at Newburyport, to be known as the Anna Jaques Hospital, is nearly completed. It comprises a group of buildings which include an administration building, two large wards, laundry and boiler house, all of which are practically finished. Plans are ready and contracts let for the operating building, which will be of concrete, two stories, and 40 by 75 feet.

Typhoid at Williams.—The eight or ten cases of typhoid fever occurring among Williams College students have led to a careful examination of the conditions by a board of experts called by President Hopkins. They report inability to find any evidence of any local source of infection and believe the cases are all imported. The prompt action of the college authorities meets the commendation of all.

MICHIGAN.

Swindle Milford Physicians.—The well-worn collection agency frauds are abroad in Michigan and have secured the usual number of victims, who have signed contracts without first examining them closely to see what they contained. These swindlers have recently victimized three or four physicians in Milford.

Consumption Sure-Cure Factories Shut Down.—Several patent medicine companies in Kalamazoo which have manufactured and exploited alleged cures for consumption have recently discontinued business, the reason given for the closure being pressure said to have been brought to bear by the United States government, for fraudulent use of the mails.

Medical College Under Ban.—At the October meeting of the State Board of Examiners in Medicine and Surgery, the Michigan College of Medicine and Surgery, Detroit, was taken from the list of accepted schools, the reason given by Dr. Oscar LeSeure, the local member of the board, being that it did not come up to the requirements demanded of such an institution, and was lacking in general equipment. The college authorities claim that this decision is due to a misunderstanding.

Comparative Morbidity.—For October, compared with the average for October in the last ten years, scarlet fever was

more than usually prevalent; and influenza, dysentery, intermittent fever, cholera infantum, remittent fever, erysipelas, whooping cough and measles were less than usually prevalent. For October, compared with the preceding month, neuralgia, influenza, scarlet fever, pneumonia, diphtheria and measles were more prevalent; and diarrhea, dysentery, cholera morbus, pleuritis, inflammation of bowels, cholera infantum, whooping cough and smallpox were less prevalent.

Communicable Diseases.—Meningitis was reported present in Michigan during the month of October, 1903, at 8 places; whooping cough at 19 places; measles at 21 places; smallpox at 42 places; diphtheria at 83 places; scarlet fever at 111 places; typhoid fever at 185 places and consumption at 242 places. Meningitis was reported at the same number of places; whooping cough at 13 places less; measles at 3 places less; smallpox at 15 places less; diphtheria at 10 places more; scarlet fever at 8 places more; typhoid fever at 3 places more, and consumption at 9 places more, when compared with the preceding month.

Lecture on Tropical Medicine.—Major Frank S. Bourns, M.D., formerly health officer of Manila, gave a lecture to the fourth-year medical students at the University of Michigan November 12. Dr. Bourns detailed the more important tropical diseases encountered in the Philippines, including dysentery, cholera, leprosy, plague, malaria and beri-beri; described the measures that have been carried out to check the various diseases, explained some of the unusual difficulties in preventive medicine among a partly civilized, superstitious and fatalistic population, and mentioned the lines along which further work in medicine would be likely to be carried out.

October Michigan Mortality.—There were 2,624 deaths reported to the Department of State for October, or 98 less than the number returned for the preceding month. The death rate was 12.5 per 1,000. There was a considerable decrease in deaths of infants and children, and a slight increase in deaths of elderly persons as compared with September. Important causes of death were as follows: Tuberculosis, 225; typhoid fever, 90; diphtheria, 78; scarlet fever, 7; measles, 3; whooping cough, 16; pneumonia, 143; diarrhea and enteritis, under 2 years, 173; cancer, 129; accidents and violence, 202. There was 1 death from smallpox. Somewhat increased mortality was shown from tuberculosis, diphtheria and croup and pneumonia. Typhoid fever caused 90 deaths as compared with 74 during the preceding month. There was a very large decrease in deaths reported from diarrheal diseases of children and also a considerable diminution in the number of deaths from cancer.

MISSOURI.

Smallpox.—Milan is reported to have a number of cases of smallpox and one death has occurred.

St. Louis College News.—Barnes Medical College has added a dental and a pharmaceutical department and is now on a university basis. It has opened with an increased number of students and has no university affiliation.

In Memory of Pollak.—The St. Louis Medical Society of Missouri, at its meeting, November 14, adopted memorial resolutions, setting forth the sense of the society's loss in the death of Dr. Simon Pollak, its "oldest and most illustrious member."

St. Joseph Personals.—Dr. J. J. Bentley has been re-elected superintendent of the Ensworth Hospital.—Dr. Frank O. Reynolds has been adjudged insane and has been taken to the State Hospital for the Insane, No. 2. His condition is said to be due to the use of cocaine and morphine.

NEW YORK.

Smallpox Bills Audited.—The town board of Perry has audited bills aggregating nearly \$3,000 as a direct result of the smallpox epidemic of last fall.

Consumptive Hospital Will Soon Open.—Advices from the state capitol indicate that the State Consumptive Hospital in the Adirondacks will be so far finished by the early spring as to accommodate fifty patients and by the summer the complete institution will be ready.

Personal.—Dr. Reed B. Bontecou, Troy, was tendered a reception on November 18 by the Rensselaer County Medical Association, of which he is one of the oldest members.—Dr. Chauncey P. Smith has been appointed medical officer of the Lackawanna Steel Company at West Seneca.—Dr. Thomas G. Nock has been elected mayor of Rome.

Smallpox in Medina.—There is an epidemic of smallpox in Medina. There have been 92 cases since October 1, and now 37

houses are quarantined in which are 47 persons stricken with the disease. All the cases thus far reported are of a mild form. A strong anti-vaccination sentiment exists in the town, which is responsible for the spread of the disease. The state health department has warned all the surrounding territory to quarantine against Medina.

Diphtheria.—The disease is epidemic in the village of Suffern, Rockland County, where 21 cases have already been reported. The board of education has ordered that the schools be closed. —Two public schools in Auburn have been closed indefinitely on account of the prevalence of the disease in the north-western part of that city, where 30 cases are said to exist.—An epidemic of diphtheria exists at the Elmira Reformatory and a number of deaths are reported. The disease must have been brought there by some prisoner, as no cases have been discovered in the city outside of the prison.

Buffalo.

Midwives Fined.—Two Polish midwives were each recently fined \$25 and costs in the Municipal Court for practicing without a license.

Personal.—Dr. and Mrs. John V. Woodruff are in the Bermudas.—Dr. Lawrence Hendee, a graduate of the University of Buffalo, and for several years past an instructor in anatomy at Cornell University, has been appointed volunteer assistant in surgery at the University of Königsberg, Germany.

Hospital Alumni Meet.—The annual meeting and banquet of the General Hospital Alumni Association was held November 7, when a committee was appointed to draw up resolutions on the death of Cornelius C. Wyckoff, and the following officers were elected: President, Dr. Peter F. Van Peyma; vice-president, Dr. Charles G. Stockton; and secretary and treasurer, Dr. William I. Thornton, all of Buffalo.

Dr. Marcy Wins Suit.—In the suit for alleged malpractice brought by Fred B. Lamphere against Dr. William H. Marcy, Buffalo, in which \$10,000 was claimed on the ground that the defendant declared the child dead, although the child was alive and lived for several hours, the court decided that there was no cause for action because the possibilities of life in a prematurely born child of that age were so slight that it eliminated the question of damages from the case.

October Deaths.—The monthly report of the department of health for October shows a death rate of 13.16 per 1,000. The principal causes of death were as follows: Consumption, 28; cholera infantum, 4; diphtheria, 10; typhoid fever, 12; debility, 42; alcoholism, 2; cancer, 11; apoplexy, 23; valvular disease of the heart, 37; pneumonia, 16; appendicitis, 4; cirrhosis of the liver, 6; enteritis, 11; diabetes, 6; nephritis, 20; abortion and violence, 36. Total deaths, 442, as compared to 393 for October, 1902.

New York City.

New Dispensary and Dormitory for Bellevue.—The old building formerly used as the Bellevue Medical College was opened November 17 as a dispensary for out-patients. The building has been entirely renovated and made fireproof at a cost of \$53,000.

Would Destroy "Lung Block."—A public hearing was held November 13, at which the destruction of what is known as the "lung block"—because of the prevalence of consumption—bounded by Houston, Catherine, Cherry and Market streets, was urged by the board of estimate.

Personal.—Dr. M. Allen Starr has been elected a corresponding member of the Neurological Society of the United Kingdom, London, in recognition of his contributions to the study of nervous diseases.—Dr. Frederick W. Chapin, who was recently removed to the Insane Pavilion of Bellevue Hospital, is reported as improving.

PENNSYLVANIA.

New Hospital for Pittsburg.—A contract for the Eye, Ear and Throat Hospital for Pittsburg has been awarded. The building will be three stories in height and will cost about \$75,000.

Addition to State Hospital.—Directors of the Lackawanna State Hospital, Scranton, have decided to make a four-story addition to the hospital building, which will be of brick, and fireproof, and will cost about \$100,000.

Contagious Diseases in Pittsburg.—Pittsburg is suffering from typhoid fever, scarlet fever, diphtheria and smallpox. During the week ended November 14, the physicians of the bureau of health vaccinated about 16,000 individuals.

Dr. Ridenour Acquitted.—Dr. Samuel H. Ridenour, Pittsburgh, who was charged with selling cocaine without a prescription, was found not guilty. The defendant admitted that he had sold the drug and pleaded ignorance of the law restricting its sale.

Smallpox.—Two new cases have developed at Jeannette. In Pleasant Valley, 13 cases are said to exist, and one patient has died. Alliance has an epidemic of the disease and the health boards of Allentown and Catasauqua have adopted a resolution requesting the electric and steam railways to discontinue selling tickets to Cementon, Sigfried and Northampton until all danger of infection is passed.

Advisory Medical Board for Penitentiary.—Drs. William D. Robinson and Charles D. Hart, inspectors of the Eastern State Penitentiary, who were appointed a special committee to obtain the voluntary services of an advisory board of physicians and surgeons, have been successful in their endeavors. The members of the advisory board are: Dr. Robert G. LeConte, surgery; Dr. Judson Daland, medicine; Dr. George E. de Schweinitz, ophthalmology; Dr. Francis A. Packard, laryngology, rhinology and otology, and Dr. Horace Philips, neurology, all of Philadelphia.

Philadelphia.

Personal.—Dr. Alfred Heineberg has been appointed assistant demonstrator of gynecology in Jefferson Medical College. The University of Toronto has conferred on Dr. W. W. Keen the degree of LL.D.

Woman's College Hospital.—The Woman's Medical College contemplates building a hospital and has issued a circular asking the alumnae to subscribe to the project. About \$75,000 is needed for the building and \$425,000 for endowment. Friends of the institution will also be asked for aid.

Hospital Site Purchased.—The Mount Sinai Hospital Association, which was organized three years ago, and which has since maintained a large dispensary in the slum district, has recently purchased at a cost of \$35,000 a site for a hospital. The project is supported by several benevolent and wealthy Jews of the city.

Weir Mitchell Guest of Honor.—At the regular meeting of the Medical Club of Philadelphia, November 20, which was of the nature of a smoker held four times a year at the Hotel Bellevue, Dr. S. Weir Mitchell was the guest of honor. Preceding the meeting the president, Dr. Edward E. Montgomery, entertained Dr. Mitchell and a few professional friends at dinner.

The Smoke Nuisance.—A subcommittee of the city councils has approved an ordinance to abate the soft coal smoke nuisance. This also provides that no sulphurous fumes or noxious odors shall be permitted to escape from any chimney or smoke-stack within the city limits. A penalty of \$50 is fixed for each violation. Locomotives and steamships are exempted. The question of legality is to be determined by smoked glass of such a degree of darkness that any smoke visible through the glass is of illegal darkness in color.

The Contagious Disease Situation.—Of the 373 new cases of contagious diseases reported for the week ended November 21 34 per cent. were from wards surrounding the Municipal Hospital. The latter condition is due, Director Martin thinks, to a "leak" in the Municipal Hospital. The new cases of smallpox numbered 68, double as many as for the week before. Dr. Martin has no reason to think, he says, that smallpox will become epidemic. The chief reason assigned for its continuance is the fact that victims ignorantly or intentionally fail to call in a physician and therefore keep the health authorities from learning of the cases. Many of the recent cases have occurred among a religious sect of negroes who depend on prayer and incantations and resist medical treatment. The founder and head of the church is said to have fled the city to escape arrest. Some of the leaders are in quarantine and will probably be tried for practicing medicine without license. The health authorities, with a detail of police, recently made a raid on some four hundred of the congregated sect and forcibly vaccinated all who were not properly protected by vaccination.

GENERAL.

Tuberculosis Sanitarium on Isle of Pines.—The climate of the Isle of Pines, West Indies, is said to be as well fitted for the residence of consumptives as is that of Colorado and a tuberculosis sanitarium is projected.

The Phipps Institute Lectures.—The next lecture in this course will be given in Philadelphia, Thursday, December 3, by Dr. William Osler, Baltimore, the subject being "The Home

and Its Relation to the Tuberculosis Problem." These lectures are semi-popular in character and all are invited to attend them.

Manila Medical Society.—At a recent monthly meeting of this society, Major J. M. Banister of the First Reserve Hospital read a very interesting paper on "The Treatment of Strangulated Hernia." Dr. R. P. Strong exhibited a collection of intestinal parasites. Capt. Edward L. Munson, acting commissioner of public health, read a paper on "The Movement of the Bubonic Plague in the Philippines." There was a good attendance and discussion was lively. The society is reported to be growing.

Conference of Section Officers.—A conference of the officers of the sections of the American Medical Association was held at Chicago, November 18, in response to an invitation sent out by the President-elect, John H. Musser. The various sections were represented as follows: Practice of Medicine, Alexander Lambert, New York; J. L. Miller, Chicago, and George Dock, Ann Arbor, Mich. Obstetrics and Diseases of Women, L. H. Dunning, Indianapolis; C. L. Bonifield, Cincinnati, and Henry P. Newman, Chicago. Surgery and Anatomy, E. Wyllys Andrews, Chicago; A. J. Ochsner, Chicago, and W. J. Mayo, Rochester, Minn. Hygiene and Sanitary Science, Arthur R. Reynolds, Chicago, and H. M. Bracken, Minneapolis. Ophthalmology, Albert E. Bulson, Jr., Ft. Wayne, Ind., and Frank Allport, Chicago. Diseases of Children, Charles G. Kerley, New York; C. F. Wahrer, Ft. Madison, Iowa, and John C. Cook, Chicago. Stomatology, Eugene S. Talbot, Chicago. Nervous and Mental Diseases, F. Savary Pearce, Philadelphia; David I. Wolfstein, Cincinnati, and Hugh T. Patrick, Chicago. Cutaneous Medicine and Surgery, Henry G. Anthony, Chicago, and R. R. Campbell, Chicago. Laryngology and Otology, J. F. Barnhill, Indianapolis, and Otto T. Freer, Chicago. Materia Medica, Pharmacy and Therapeutics, C. S. N. Hallberg, Chicago, and N. S. Davis, Jr., Chicago. Pathology and Physiology, L. Hektoen, Chicago, and Frank B. Wynn, Indianapolis. There were present also: J. H. Musser, President-elect, Philadelphia; George F. Jenkins, Fourth Vice-President, Keokuk, Iowa; M. L. Harris, Resident Trustee, Chicago, and George H. Simmons, Secretary, Chicago. A continuous day's session was held, and in the evening a dinner was tendered by the resident section officers to the visitors. Matters of special importance to the sections were discussed, such as places of holding section meetings, modes of election of officers, need of more or less permanency in the office of section secretary, need of collaboration in section work to the end that any given subject may be discussed in one section only, the advisability of the smaller sections having a shorter program and hold only half-day sessions each day, giving their members a chance to attend other sections, etc. It is believed that the conference was of great value and will result in much good and will make the section sessions of more practical value to all than has been the case in the past.

CANADA.

The New Hospital Opened at Moncton, N. B.—Moncton's new hospital building was formally opened November 11. The building is a modern one, and cost \$20,000.

Personal.—Dr. Herald has resigned as secretary-treasurer of the faculty of Queen's University, Kingston, and Dr. W. T. Connell has been appointed to the vacancy; Dr. A. R. B. Williamson has been appointed lecturer on medical jurisprudence and toxicology. Dr. Von Eberts, registrar of the faculty of medicine of McGill University, has resigned and will resume private practice. Dr. D. A. Shirres, Montreal, who has been studying in Europe, has been appointed neurologist to the Montreal General Hospital.

Smallpox and Diphtheria in Ontario.—Dr. Hodgetts, provincial medical health inspector for Ontario, has been examining into the smallpox outbreak in Tweed, Hastings County, Ont., and reports that there have been 29 cases in 8 houses. Dr. Bryce, secretary of the Ontario Board of Health, has reported that in August last 27 municipalities reported 122 cases of diphtheria, with 24 deaths; in September 38 municipalities reported 240 cases, with 30 deaths; in October 52 municipalities reported 461 cases, with 54 deaths, and returns so far for the month of November indicate that the disease is still spreading. In the City of Toronto alone in August there were 51 cases reported; in October the number had grown to 118 with 14 deaths. Out of 770 cases 445 have been treated in isolation hospitals.

Toronto University Seeks Better Hospital Facilities.—The medical faculty of the University of Toronto and the board of

trustees of the principal hospitals are at present negotiating with a view to arranging for accommodation and regulations to secure better hospital facilities for medical education. The committee appointed for the purpose from the university requires that the house staff of these hospitals be large enough to efficiently carry on the work, that one member of each staff be detailed to do clinical laboratory work exclusively, that the staffs be divided into seniors and juniors, the seniors to retire every six months, that no fees be paid any members of the house staff by physicians or patients and that each hospital board appoint an official anesthetist. With a view to increasing the material for clinics the committee urges that all patients in public wards be placed in charge of the clinical staff. They also require better facilities for the conduct of out-patient departments. Better facilities for the study of pathology were asked by the committee, increasing the number of autopsies and the keeping of proper records. In the Children's Hospital at Toronto, all these regulations have been in force for considerable time.

FOREIGN.

The Austrian Trouble.—Our Vienna exchanges state that the recent discussions in the Landtag on the subject of vivisection, with the insults to the medical profession mentioned in this column last week, are to be published in a separate pamphlet for distribution among the public. The resolution to publish the pamphlet was passed by the majority of the house. Our exchanges refer to this proceeding as presenting only too true a picture of the condition of ignorance and hostility to science prevailing throughout the masses in Austria at the opening of the twentieth century. The resolution adopted by the Vienna Medical Chamber calling on the members of the national board of health to resign, has not been complied with by the latter.

Quincke's Silver Jubilee.—October 29 was the twenty-fifth anniversary of the day on which Prof. H. Quincke assumed charge of the medical clinic at Kiel. He was previously at Berne, and was summoned to Kiel as the successor of Professor Bartels. His former assistants gathered from far and near to do him homage on his jubilee, and the attendance at the banquet was limited to those who had served as his aids at any time. The next day he invited them all to lunch at his home, and the festivities closed with a torchlight procession in his honor arranged by the students. The list of his assistants includes such names as Bertheau, Kirchhoff, Brocken-dahl, Hoppe-Seyler, von Starek and Glaevecke. Quincke is now in his sixty-first year.

LONDON LETTER.

Malaria: The Anti-Mosquito Campaign.

Reports from all parts of the British Empire show that the anti-mosquito campaign is being carried on with the most gratifying success. At the opening meeting of the Royal Colonial Institute Major Ronald Ross pointed out that in the once deadly colony of Lagos, thanks to the zeal of Sir W. MacGregor, the governor who is a doctor, malaria has lost its terrors. The difficulties to be contended with were great, for Lagos itself is built on a low and swampy territory, and surrounded by dense forests. In the medical report of Hong Kong for 1902 the deaths of the Chinese from malarial fever are stated to have been 887 in 1900, 541 in 1901, and 303 in 1902. But perhaps the most striking and rapid results have been obtained at Ismailia on the Suez Canal. In a little over 6 months one class of mosquito was practically banished from the town and coincidentally the amount of malarial fever diminished. In the first 6 months of the present year there were only 3 cases in hospital against 52 for the same period of last year.

The King's Sanatorium.

The king has laid the foundation stone of the sanatorium for the treatment of consumption which is being built in Surrey. The cost is defrayed by the munificence of a private donor [Sir Ernest Cassel, according to press dispatches.—Ed.] who wished to remain anonymous, and placed a large sum at the disposal of the king for the purpose. Sir W. Broadbent, Sir F. Treves, Sir H. Weber, and other members of the committee were present at the ceremony. The sanatorium will be replete with every convenience and invention, and will be one of the most perfect ever erected. It will be a long two-story building overlooking the Valley of the Rother to the South Downs. There will be accommodation for 100 poor and 12 well-to-do patients. Each patient will have a separate room, and there will be a balcony on which the patients can sit out and on which the beds can be wheeled. The site is ideal;

there are sandy soil, southern aspect and pine woods, which protect against north and northeast breezes. The ground slopes gently to the south and is well wooded, the western border consisting of open moorland ending in a ravine. The climate is rendered mild and equable by proximity to the sea and shelter from the hills. The primary object is to provide accommodation for a class above the very poor (who are already provided for) such as teachers, governesses, clerks, shop assistants, etc.

Typhoid Fever in Glasgow Due to Contaminated Shellfish.

An outbreak of typhoid fever in London due to shellfish contaminated with sewage was recently described in THE JOURNAL. A similar outbreak has just occurred in Glasgow. The health officer has reported 18 cases, all giving the same history. The patients had been on a holiday at the same coast town at the probable time of infection and consumed uncooked shellfish (cockles or mussels). In addition 8 cases occurred in one family who had not visited the town in question but had eaten shellfish brought from it. The dates of sickening seemed to show that the mother of the family had contracted the fever from the shellfish and that the other members were infected through her. The shellfish were gathered by the visitors from an area of foreshore polluted by the sewage of the town. Bacteriologic examination of the shellfish showed evidence of fecal pollution in almost every specimen—the presence of the *Bacillus coli*. On the other hand, shellfish obtained at a distance of 1½ to 2 miles from the sewer outfall were entirely free from the bacillus. Only in the third series of specimens examined was any trace of an organism resembling the typhoid bacillus found and there it was very abundant. This bacillus was obtained in great numbers and almost in pure culture in one plate. The shellfish which yielded this was a cockle found on the surface about 200 yards from the sewer outfall. Surface cockles are regarded by cockle gatherers as sick and are avoided, but it is just these the inexperienced would pick up. The bacillus had all the microscopic and cultural characters of the typhoid bacillus and it gave the Widal reaction.

Correspondence.

One of the Causes of the Chaos in Posology.

NEW YORK, Nov. 21, 1903.

To the Editor:—In my communication, "Dose of Carbolic Acid and Dosage in General," which appeared in THE JOURNAL, November 21, I said that our so-called science of posology is in an uncertain, chaotic condition. There are many intrinsic reasons for this chaos and uncertainty, but I wish to call attention to one cause, which contributes toward that chaos, sows confusion in the physician's mind and not infrequently throws him off the track. Two or three days ago the question of dosage came up. A medical friend, a recent graduate, said that the dose of belladonna as given in the books is entirely too small. He has a child under treatment suffering with pertussis; he has been trying to put it under the influence of belladonna. He started with one-drop doses of the fluid extract, but as they had no effect, he began gradually to increase the dose, until now he is giving 8 drops three or four times a day. "And even under these doses the physiologic effect is very slight. There is hardly any dilatation of the pupils, flushing of the face or dryness of the throat," etc. Though I am rather used to large doses, this statement surprised me. I am familiar enough with belladonna to know that 8 drops of the fluid extract is a heroic dose for a child 8 or 9 years old. I suggested that the fluid extract must have been old and ineffective, or otherwise the child must possess a peculiar immunity toward belladonna. An examination at the drug store of the bottle of the fl. ext. belladonna showed a sediment at the bottom, and the appearance of the bottle indicated that it must have been on the druggist's shelves for a long time. An original bottle of the fluid extract of belladonna was obtained from a prominent manufacturer, and one drop of that produced a decided and unmistakable physiologic belladonna effect. I shudder to think what the result might have been if this physician, misled by his experience, had ordered for a child 8 drops of an efficient fluid extract of belladonna several times a day. The above is, I am sure, not a solitary

case. We very frequently deal with different galenical preparations of the same drug, one of which may be twenty times stronger than another.

The above incident teaches us two important lessons: 1. In prescribing galenicals we should make sure that they are comparatively fresh and come from high-class manufacturers. 2. In the cases of drugs which contain active principles fully representing the virtues of the drugs, those active principles are by far preferable to the crude drug or to its galenic preparations. Atropin is always atropin, but belladonna is not always belladonna, and the same may be said of dozens of other important drugs.

WILLIAM J. ROBINSON, M.D.

119 East 128th Street.

Interchange of Licenses.

NEWARK, N. J., Nov. 20, 1903.

To the Editor:—At the meeting of the National Board of Dental Examiners, held at Nashville, N. C., last August, the following resolution was unanimously adopted after full discussion:

Resolved, That an interchange of license to practice dentistry be, and is hereby recommended to be, granted by the various state boards, on the following specific conditions:

Any dentist who has been in legal practice for five years or more, and is a reputable dentist of good moral character, and who is desirous of making a change of residence into another state, may apply to the examining board of the state in which he resides, for a new certificate which shall attest to his moral character and professional attainments, and said certificate, if granted, shall be deposited with the examining board of the state in which he proposes to reside, and the said board, in exchange therefor, may grant him a license to practice dentistry.

The above resolution has already been adopted by New Jersey, Ohio and Indiana. Medical men and dentists have been looking for a way to reciprocate in licensing. I think the above resolution comes very near the mark. The party desiring to locate in another state must get a certificate from his own state board first. It is presumed that if he is not all right he will not get such a certificate. The certificate under these conditions is like a letter of introduction. If the applicant is unworthy, his own board will know it, and will not grant the certificate. Such a certificate will be looked on as a kind of "letter of credit," and will not be given unless there is behind it a deposit that can always be drawn on. I think every state board of dental and medical examiners should adopt the principle.

CHAS. S. STOCKTON.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WINKLEMAN'S OPERATION FOR HYDROCELE.

WASHINGTON, D. C., November, 1903.

To the Editor:—Will you kindly inform me what is Winklemann's operation for hydrocele?

G. H. H.

ANSWER.—Winklemann's operation for hydrocele, which was referred to on p. 471 of this volume of THE JOURNAL, was first described in the *Centralblatt für Chirurgie*, Nov. 5, 1898, from which a description was taken, appearing in THE JOURNAL, Jan. 7, 1899. It consists in releasing the fluid through an incision 3 to 4 c.c. in length near the upper pole; then drawing the testis out of the scrotum outward as far as possible until stripped of its serous tunica vaginalis covering which is thus drawn wrong side out. A stitch or two is taken to prevent the testis from slipping back into its sac and the testis and tunica are replaced and skin sutured. Adhesions soon form and the operation is asserted to be as effective as the more radical ones. The testis is left a trifle higher than normal and a slight edematous swelling may form for some time, but it is claimed there are no other inconveniences and the patient can be dismissed at once, as there is no danger of hemorrhage. The operation was performed by Winklemann under Schleich anesthesia.

Marriages.

WILDER TRILESTON, M.D., Boston, to Miss Clare Williams of Chicago, November 18.

GEORGE KRAMER HETZOG, M.D., to Miss Rae Cohn, both of San Francisco, October 7.

JOHN H. OLIVER, M.D., to Miss Nellie Northrop, both of Kewanee, Ill., November 11.

JULIUS ULLMAN, M.D., Buffalo, N. Y., to Miss Eugenia Platky of New York City, October 26.

WILLIAM T. MOFFETT, M.D., to Miss Myrtle M. Crow, both of Blue Mound, Ill., November 17.

CHARLES F. BLAKE, M.D., Baltimore, to Miss Adeline O'Bryon of Washington, D. C., November 10.

WILLIAM D. FERGUSON, M.D., to Miss Claudia Tallulah Irby, both of Laurens, S. C., November 18.

ROBERT E. MASON, M.D., Charlotte, N. C., to Miss Lucile McKie of Woodlawn, S. C., October 27.

JAMES WILLIAM LEWIS, M.D., Bowling Green, Ky., to Miss Susie Talbot of Valdosta, Ga., November 13.

SKOTTOWE BELLINGER FISHBURNE, M.D., to Miss Marion Lee Green, both of Columbia, S. C., November 11.

FRANK CLARENDON COOK, M.D., U. S. Navy, to Miss Eugenia Murdaugh Bain, at Norfolk, Va., November 11.

JOHN FRANCIS CORBIN, M.D., Knoxville, Ill., to Miss Marion Saybrook of Canada, at Knoxville, November 11.

JAMES H. HARGRAVE, M.D., Garysville, Va., to Miss Mary Elizabeth Peters, at Waverly, Va., November 11.

JOSEPH ALBERT CATLIN, M.D., of Church Hill, Md., to Miss M. Claiborne Grasty, at Baltimore, November 10.

WILLIAM M. COPENHAVER, M.D., Bristol, Va., to Miss Emma Charles Turner of Chattanooga, Tenn., November 25.

OLIVER WARDLAW LEONARD, M.D., Spartanburg, S. C., to Miss Corinne Louise Jones of Laurens, S. C., November 25.

JESSE HUGHES MARRY, M.D., Newport News, Va., to Miss Elizabeth Boatwright, at Mount Zion Church, Rockingham County, Va., November 10.

Deaths.

Joseph McFadden Gaston, M.D., was born Dec. 27, 1824, in Chester, S. C., the son of Dr. John Brown Gaston. He obtained his earlier education at South Carolina College, Columbia, where he received his A. B. degree in 1843. Immediately after receiving this degree he began reading medicine with his father, attended one course of lectures at the University of Pennsylvania and a second course at the Medical College of the State of South Carolina, Charleston, and received his medical degree from this institution, March 6, 1846. He practiced medicine with his father in the Charlestown District for six years, when he removed to Columbia. At the outbreak of the Civil War Dr. Gaston enlisted in the Columbia Grays and was soon appointed chief surgeon of the South Carolina forces. He was soon promoted to medical director under General Beauregard. He was then made chief surgeon of the third brigade of South Carolina Volunteers, and later participated in the Virginia and Pennsylvania campaigns as chief surgeon of division. Later he was ordered to report to the medical director of hospitals, and was sent to establish a general hospital at Fort Gaines, Ga., then at Fort Valley, where he remained on duty until the close of the war. At the cessation of hostilities Dr. Gaston went to Brazil, where he attended the lecture of the Imperial Academy of Medicine, and he was given the ad eundem degree in 1873. He practiced in Brazil for ten years, and then returned to America, locating in Atlanta. In 1884 he was elected professor of principles and practice of surgery in the Southern Medical College of Atlanta. He was a member of the American Medical Association and chairman of its surgical section in 1891 and 1892; president of the Southern Surgical and Gynecological Association in 1891; president of the American Academy of Medicine in 1895, and vice-president of the American Surgical Association in 1887. During his late years he was made honorary member of the Medical Society of Virginia; of the American Association of Obstetricians and Gynecologists of the Medical Association of Georgia; the Atlanta Society of Medicine and the Southern Surgical and Gynecological Association. Dr. Gaston had been in feeble health for a considerable time, and died at his home in Atlanta, November 15, from acute indigestion, aged 79. He was an authority and a pioneer in the surgical treatment of intestinal diseases. His contributions to literature were chiefly in the line of his specialty; those on yellow fever inoculation and surgery of the gall bladder and duets are specially notable.

Cornelius C. Wyckoff, M.D. University of Buffalo, 1848, one of the most prominent medical men of western New York; the

only survivor of the original staff of the Buffalo General Hospital; president of the Board of Trustees of the Buffalo Eye and Ear Infirmary; a member of the American Medical Association; a charter member of the New York State Medical Association and sometime president of the Erie County Medical Society and the Buffalo Medical Society; at one time health officer of Buffalo and for many years a member of the board of censors of the New York State Medical Society, died at his home in Buffalo, November 7, from uremia due to kidney disease of long standing, aged 80. A special meeting of the Erie County Medical Society was held November 10, at which action was taken regarding the death of Dr. Wyckoff. The next regular meeting of the Buffalo Academy of Medicine, of which Dr. Wyckoff was a member, will be held in memory of him.

John K. Rainey, M.D. St. Louis Medical College, 1859, surgeon of the 111th Illinois Volunteer Infantry in the Civil War; chief surgeon of the first division, Seventh Army Corps in the Spanish-American War; department commander of the Grand Army of the Republic; surgeon of the Florida East Coast Railway; member of the St. John County Medical Society, and of the Florida Medical Association, died at his home in St. Augustine, November 9.

Robert D. Murray, M.D., surgeon, U. S. P. H. and M.-H. Service, stationed at Key West, Fla., who sustained severe injuries in a runaway accident at Laredo, Texas, November 15, died at that place, November 22. Dr. Murray was an old officer in the service, had been in charge of many stations in the department and, at the time his injuries were received, was engaged in the investigation of the yellow fever epidemic in Laredo.

James A. E. Steeves, M.D. University of Vermont, Burlington, 1884, of St. Johns, N. B., died at Phoenix, Ariz., November 14, from heart disease, aged 42. He was considered a leading authority on nervous diseases in the Province of New Brunswick, and for a number of years was assistant to his father, the late Dr. J. T. Steeves, who was superintendent of the New Brunswick Lunatic Asylum.

J. Frank Moore, M.D. University of New Orleans, 1858, member of the state medical societies of Mississippi and Texas, member of the Smith County (Texas) Medical Society, and of the Board of Medical Examiners for the Seventh District, a surgeon in the Confederate service during the Civil War, died at his home in Tyler, Texas, November 18, from bronchopneumonia.

Samuel S. Lathrop, M.D. College of Physicians and Surgeons, New York, 1900, pathologist to the William Backus Hospital, secretary of the Norwich (Conn.) City Medical Association, member of the New London County Medical Society and the Connecticut Medical Society, was killed by an automobile in Norwich, November 8, aged 39.

Archabale B. Temple, M.D. Western Reserve University, Cleveland, Ohio, 1883, a member of the Kansas State Medical Society, the International Association of Railway Surgeons, and first vice-president of the Southeast Kansas Medical Society, died suddenly in his office in Tulsa, I. T., November 11.

Sylvester J. Finley, M.D. Washington University School of Medicine, Baltimore, 1853, was overcome by paralysis while making a professional call in Lower Chanesford Township, York County, Pa., a few days before, died at his home in Castle Finn, November 12, aged 73.

James M. Mosgrove, M.D. Medical College of Ohio, Cincinnati, 1846, a member of the American Medical Association, a pioneer practitioner, and of late years a banker of Urbana, Ohio, died at his home in that city, from pneumonia, November 9, aged 78.

James Bond Read, M.D. University of Maryland School of Medicine, Baltimore, 1849, formerly of Savannah, Ga., died at his home in Greencove Springs, Fla., from pneumonia, November 10, after an illness of one week, aged 76.

William Ellery Channing Swan, M.D. Harvard University Medical School, Boston, 1865, for forty years a practitioner of Stoughton, Mass., died suddenly at his home in that city, November 10, from heart disease, aged 61.

Arthur E. Chatfield, M.D. Cleveland College of Physicians and Surgeons, Cleveland, 1896, of Cleveland, died at the City Hospital, Cleveland, November 10, from diphtheria, after an illness of three days, aged 43.

William Walker Duffer, M.D. Kentucky School of Medicine, Louisville, 1897, who practiced for some time in Knobel, Ark., died at his home in Louisville, November 10, after a long illness from tuberculosis, aged 40.

Edgar B. Lake, M.D. New York University, 1888, one of the city physicians of Amsterdam, N. Y., died at the Amsterdam Hospital, November 10, from burns received in some unexplained way.

Robert H. Peel, M.D. New Orleans School of Medicine, 1860, of Holly Springs, Miss., died suddenly from heart disease, November 6, while hunting in the Tallulahatchie bottom, near Abbeville.

Thomas S. Cook, M.D. Howard University, Washington, D. C., 1894, died at his home in St. Paul, Minn., November 15, from acute gastritis, after an illness of only a few hours, aged 42.

James Zalmon Hunt, M.D. Long Island College Hospital, Brooklyn, N. Y., 1887, died at his home in Lowville, N. Y., November 13, from typhoid fever, after an illness of ten days, aged 42.

Samuel H. Headlee, M.D. Missouri Medical College, St. Louis, 1858, the oldest physician in Phelps County, Mo., died at his home in St. James, November 11, from paralysis, aged 80.

Richard E. Moody, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1872, mayor of Sweetwater, Texas, died at his home in that city, November 11, from heart disease.

Stephen Bennett, M.D. Dartmouth Medical College, Hanover, N. H., 1851, for 47 years a practitioner of Lithopolis, Ohio, died at his home in that place, November 15, aged 81.

Lucius B. Baker, M.D. University of Vermont, Burlington, 1872, died at his home in Russell, N. Y., November 2, aged 57.

James Cleveland Bivings, M.D. Medical College of Georgia, Augusta, 1868, died at his home in Dalton, Ga., November 12.

Deaths Abroad.

H. H. Hurdman, M.D., formerly in charge of the mounted police hospital at Dawson, N. W. T., died at his home in Johannesburg, South Africa, August 28, from pneumonia, aged 33.

Charles Marshall, M.D. University of Bishop's College, Montreal, 1879, of Huntingdon, P. Q., a member of the Medical Board of Governors of the Province of Quebec, died suddenly from apoplexy while visiting in New York City, November 13, aged 54.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1. Secretary, Geo. G. Gere, M.D., 825 Market St., San Francisco.

State Board of Examiners of Alabama, Montgomery, Dec. 1 to 10. Chairman, W. H. Sanders, M.D., Montgomery.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10. Secretary, Dr. Frank Winders, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22, 23 and 24. Secretary, Dr. S. D. Van Meter, Denver.

Arkansas Report.—Dr. J. P. Runyan, secretary of the State Medical Board of the Arkansas Medical Society, sends a report of a recent written examination held at Little Rock. Ten applicants were examined, of whom 8 passed and 2 failed. Two of those who passed and the two who failed were undergraduates. The examination covered seven subjects, 70 questions were asked and a percentage of 60 was required for passing. The colleges of the graduates are given below:

Colleges.	Year Grad.	Per Cent.
Jefferson Medical College.....	1903	87
Rush Medical College.....	1877	73
College of Physicians and Surgeons, Chicago.....	1903	89
Chattanooga Medical College (Tenn.).....	1903	80
Harvey Medical College, Chicago.....	1897	74
University of the South, Sewanee, Tenn.....	1903	68

Association News.

Place of Session of the American Medical Association for 1905.—Attention is called to the action taken at the last session of the American Medical Association to the effect that any city wishing to invite the Association to meet at that place should present the invitation, together with all available facts concerning hotel accommodations, number and seating capacity of halls available for section meetings, intumeral means of transportation, railroad facilities, etc., at least three months before the annual session of the preceding year. In accordance with the above, it is hoped that those cities which desire the Association in 1905 will send their invitations, with all information possible, on or before March 1, 1904.

[Signed] M L HARRIS, M.D.,
Chairman Committee on Place of Session and Transportation,
100 State Street, Chicago

The Senn Prize Essay for 1904

The Committee on the Senn Medal begs leave to call attention to the following conditions governing the competition for this medal for 1904: A gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject. The award will be made under the following conditions: (a) The name of the author of each competing essay must be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the session at which the award is made, and the corresponding envelope is to be then and there opened and the name of the successful author announced. (b) All successful essays become the property of the Association. (c) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. (d) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (e) The competition for the medal will be closed on, and no essays received after, March 1, 1904. Communications may be addressed to any member of the committee, which consists of the following: Dr James H Dunn, Chairman, Minneapolis; Dr. M L Harris, 100 State Street, Chicago; Dr. Floyd McRae, Atlanta, Ga.

The Public Service.

Army Changes.

Changes of station and duties of medical officers of the U S Army for the week ending Nov 21, 1903

Church, Jas R, asst surgeon, granted fourteen days' leave of absence

Appel, Aaron H, surgeon, granted thirty days' sick leave of absence

Shockey, M A W, asst surgeon, granted thirty days' leave with permission to apply for ten days' extension

Land, I W, asst surgeon, left Fort Wright, Wash., on thirty days' leave

Wilson, Compton, asst surgeon, now at San Francisco, is relieved from duty in the Division of the Philippines and will proceed to Fort Howard, Md., for duty.

Schreiner, E R, asst surgeon, relieved from duty at Fort Howard, Md., and will proceed to Fort McHenry, Md., for duty

Bispham, W N, asst surgeon, relieved at Fort McHenry, Md., to proceed to Fort Logan, Cal., for duty

Ashburn, Percy M, Usher, F M C, Russell, Fredk F, Wolfe, Edwin P, first lieutenants, ordered to Presidio of San Francisco, Cal., for examination for promotion

De Shon, Geo D, Ford, Joseph H, Dean, Elmer A, and Cox, Walter, captains, Steel, Saml L, Truby, Willard F, Williamson, L P, Marlow, Chas D, and Greenleaf, Henry S, first lieutenants, ordered to Army Medical Museum Building, Washington, D C, for examination for promotion

Little, Wm L, asst surgeon, relieved from further duty in Division of the Philippines, and ordered to Camp George H Thomas, Ga., for duty.

Halsell, John T, contract surgeon, relieved at Fort McIntosh, Texas, and ordered to Eagle Pass, Texas, to relieve contract surgeon Victor E Watkins, U S Army, who is ordered to San Francisco, Cal., to sail December 1 for Philippine service

Tienholtz, Clarence A, contract surgeon, relieved at Fort Apache, Ariz., and ordered to duty at the General Hospital, Fort Bayard, New Mexico

Hepburn, James H, contract surgeon, granted twenty days' leave of absence from Fort Douglas, Utah.

Newlove, George, contract surgeon, relieved from duty at Fort Wood, New York, and ordered to Fort Ethan Allen, Vt., to accompany troops of the 2d Cavalry to Philippine service on the *Albatross*, sailing from New York about December 15.

Cooke, Robert P, contract surgeon, returned from temporary duty at Fort Sieeven, Ga., to his proper station, Camp George H Thomas, Ga., and is now under orders for change of station to Fort Wood, New York.

Atwine, James T, contract surgeon, granted a month's leave of absence about November 20 from the Presidio of San Francisco.

Unger, Isidor M, contract surgeon, granted three months' leave of absence from the Division of the Philippines, with permission to visit the United States

Navy Changes.

Changes in the Medical Corps of the Navy, week ending November 21:

Freeman, G. F., P. A. surgeon, detached from the Naval Hospital, Chelsea, Mass., and ordered to the Naval Station, Guam

Brownell, C. D., surgeon, detached from the *Alliance* and ordered home to await orders

Piske, C. N., P. A. surgeon, ordered to the Naval Hospital, Boston, Mass.

Angely, G. L., P. A. surgeon, detached from the *Essex* and ordered to the Naval Home

Dickson, S. H., medical inspector, ordered to the *Kearsarge* as fleet surgeon of the North Atlantic Station.

McClurg, W. A., medical inspector, detached from the *Kearsarge*, and ordered home to wait orders

Gill, J. E., asst. surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service for the seven days ended Nov. 19, 1903

Williams, L. L., asst surgeon general, to proceed to New York, N. Y., for special temporary duty and as inspector of the Purveying Depot

Carmichael, D. A., surgeon, bureau letter of October 5 granting Surgeon Carmichael leave of absence for thirty days from October 10, amended so as to read twenty four days from October 10

Wadlin, Eugene, surgeon, granted leave of absence for one month from December 7.

Magruder, G. M., surgeon, granted leave of absence for two days from November 17

Rosenau, M. J., P. A. surgeon, relieved from duty at Vera Cruz, Mexico, and directed to rejoin his station in Washington, D. C.

Parker, H. B., P. A. surgeon, relieved from duty at Vera Cruz, Mexico, and directed to return to the Bureau at Washington, D. C.

Lumsden, L. L., P. A. surgeon, granted leave of absence for ten days from November 15

Ramus, Carl, asst surgeon, granted leave of absence on account of sickness for nine days from October 28

Stansfield, H. A., asst surgeon, to report to the director of the Hygienic Laboratory for duty

Goldberger, Joseph, asst surgeon, to proceed to Laredo, Texas, for special temporary duty.

Betty, T. D., asst surgeon, to proceed to Cleveland, Ohio, and assume temporary command of the service at that port during absence of medical officer in command, on completion of which to rejoin his station

Francis, Edward, asst surgeon, granted leave of absence for fourteen days. Relieved from duty at Vera Cruz, Mexico, and directed to return to the Bureau at Washington, D. C.

Bogges, J. S., asst surgeon, granted leave of absence for one month from December 15

Pierce, C. C., asst surgeon, detailed as inspector of unseaworthy property on the steamer *Matton*

Lbersole, R. C., asst surgeon, to proceed to San Antonio, Texas, for special temporary duty

Ashford, F. A., asst surgeon, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters

Roberts, Norman, asst surgeon, on being relieved from duty at Chicago, Ill., to proceed to San Diego, Cal., and assume command of the service at that port

Trick, John, A, surgeon, granted leave of absence, on account of sickness, for thirty days from July 31

Hallett, E. B. A, A surgeon, granted leave of absence for four days from November 25

Magulie, E. S, pharmacist, granted leave of absence for thirty days from December 5

Southard, I. A, pharmacist, granted leave of absence for seven days from November 14, 1903, under paragraph 210 of the Regulations

Neves, George, pharmacist, directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters

APPOINTMENT

Ashford, Francis Asbury, of the District of Columbia commissioned (recess) as asst surgeon in the Public Health and Marine Hospital Service

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended Nov 20, 1903

SMALLPOX—UNITED STATES

California, Los Angeles, Nov 17, 1 case
Louisiana, Baton Rouge, Oct 24 Nov 7, 2 cases

Massachusetts: Lawrence, Nov. 8-14, 1 case.
 Mississippi: Natchez, Oct. 25-Nov. 7, 3 cases.
 Nebraska: Omaha, Aug. 1-31, 3 cases.
 New Hampshire: Manchester, Nov. 8-14, 2 cases.
 New Jersey: Camden, Nov. 8-14, 1 case.
 New York: Buffalo, Nov. 2-9, 1 case.
 Ohio: Cincinnati, Nov. 6-13, 9 cases; Youngstown, Nov. 8-14, 12 cases.
 Pennsylvania: Nov. 8-14, Philadelphia, 34 cases, 1 death; Pittsburgh, 49 cases, 5 deaths.
 South Carolina: Charleston, Nov. 8-14, 1 case.
 Texas: San Antonio, Oct. 1-31, 20 cases.
 Utah: Salt Lake City, Nov. 1-7, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 25-31, 11 cases.
 Brazil: Pernambuco, Sept. 17-30, 15 deaths; Rio de Janeiro, Oct. 11-18, 40 cases, 38 deaths.
 Chile: Antofagasta, Sept. 1-30, 23 deaths.
 China: Hongkong, Sept. 27-Oct. 3, 1 case, 1 death.
 Ecuador: Guayaquil, Oct. 11-31, 2 deaths.
 France: Marseilles, Oct. 1-31, 21 deaths; Paris, Oct. 25-31, 4 cases.
 Great Britain: Glasgow, Oct. 30-Nov. 7, 17 cases; London, Oct. 25-Nov. 7, 17 cases; Manchester, Oct. 18-24, 5 cases; Newcastle-on-Tyne, Oct. 25-31, 6 cases.
 Italy: Catania, Oct. 29-Nov. 5, 1 death.
 Malta: Oct. 18-31, 3 cases, 2 deaths.
 Mexico: City of Mexico, Oct. 26-Nov. 1, 3 cases, 1 death.
 Netherlands: Amsterdam, Nov. 1-7, 2 cases.
 Porto Rico: San Juan, Oct. 31, 2 cases.
 Russia: Moscow, Oct. 18-24, 2 deaths; Odessa, Oct. 11-18, 6 cases; St. Petersburg, Oct. 18-24, 27 cases, 1 death.
 Spain: Barcelona, Oct. 18-31, 2 deaths.
 Turkey: Constantinople, Oct. 26-Nov. 1, 2 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Oct. 11-17, 3 deaths; Madras, Oct. 3-9, 1 death.
 Turkey: Sibirkiir, Oct. 8-15, 5 deaths daily; Severeck, Oct. 8, present.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, to Nov. 18, 19 cases; Laredo, Nov. 11-19, 195 cases, 17 deaths; Minera, Nov. 11-13, 9 cases; San Antonio, Nov. 12-14, 3 cases, 3 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 11-18, 2 cases.
 Mexico: Oct. 11-24, Citas, 2 deaths; Ciudad Victoria, 23 cases, 18 deaths; Linares, 412 cases, 36 deaths; Merida, 20 cases, 7 deaths; Nuevo Laredo, Oct. 11-Nov. 14, 52 cases, 21 deaths; Oct. 11-24, Progreso, 1 case, 1 death; Salina Cruz, 8 cases, 2 deaths; Tehuantepec, 4 deaths; Vera Cruz, 66 cases, 32 deaths.
 Venezuela: Barquisimeto, Oct. 12-13, 2 deaths; Cagua, Oct. 13, present; Maracaibo, Oct. 18-24, 1 case, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 4-7, 2 cases, 2 deaths.

PLAGUE—INSULAR.

Brazil: Rio de Janeiro, Oct. 11-18, 44 cases, 22 deaths.
 British East Africa: Port Elizabeth, Sept. 20-Oct. 3, 3 cases, 2 deaths.
 China: Hongkong, Sept. 27-Oct. 3, 2 cases, 2 deaths.
 Egypt: Alexandria, Oct. 11-23, 16 cases, 11 deaths.
 India: Bombay, Oct. 14-20, 60 deaths; Calcutta, Oct. 11-17, 17 cases, 17 deaths; Karachi, Oct. 4-18, 12 cases, 10 deaths; Madras, Oct. 10-16, 1 death.
 Mauritius: Oct. 16-22, 100 cases, 66 deaths.

Medical Organization.

Florida.

SUWANEE COUNTY MEDICAL ASSOCIATION.—A number of physicians of the county met in Live Oak, November 2, and organized a county society with the following officers: Dr. Henry F. Airth, Live Oak, president; Dr. Gelon B. Smithson, Wellborn, vice-president; Dr. W. C. White, Live Oak, secretary; Dr. C. S. Brown, Live Oak, treasurer, and Drs. Silas T. Overstreet, Live Oak; F. E. Thomasson, Live Oak, and Adelbert D. Puterbaugh, Branford, censors.

Illinois.

LIVINGSTON COUNTY MEDICAL SOCIETY.—At the sixth semi-annual meeting of the society, held in Pontiac, November 12, the committee on affiliation with the Illinois State Medical Society reported favorably, and the changes in the constitution necessary to make it conform to that of the state society were adopted.

KANE AND McHENRY COUNTIES MEDICAL SOCIETY.—At the seventy-seventh semi-annual meeting of the Fox River Valley Medical Association, in Aurora, November 10, after an exposition of the standard plan of organization by Dr. Malcolm L. Harris, Chicago, representing the state society, it was agreed that the society should ask for recognition from the Illinois State Medical Society as the official society of Kane and McHenry counties. The following officers were then elected: President, Dr. Henry J. Gahagan, Elgin; vice-president, Dr. Frank H. Jenks; Aurora, and secretary and treasurer, Dr. J. Forrest Bell, Elgin.

Indiana.

PORTER COUNTY MEDICAL SOCIETY.—Dr. George F. Keiper, Lafayette, counselor for the Tenth District, announces the reorganization of the Porter County Medical Society.

Iowa.

OSCEOLA COUNTY MEDICAL SOCIETY.—The physicians of Osceola County met at Sibley, November 10, and organized a county society with the following officers: Dr. William E. Ely, Ocheyedan, president; Dr. Clinton C. Cady, Harris, vice-president; Dr. Felix J. Langenhorst, Ashton, secretary, and Dr. Louis H. Heetland, Sibley, treasurer.

GREENE COUNTY MEDICAL SOCIETY.—A number of the medical fraternity of Greene County met at Jefferson, November 9, and organized a society with the following officers: Dr. Fred M. Dean, Jefferson, president; Dr. Geo. H. Grimmell, vice-president; Dr. George W. Kester, Grand Junction, secretary and treasurer, and Drs. J. Will Presnell, Scranton; Charles Enfield, Jefferson, and Fred M. Dean, Jefferson, censors.

Kansas.

SMITH COUNTY MEDICAL SOCIETY.—This society was organized at Smith Center, November 16, as an auxiliary to the Kansas State Medical Society with the following officers: President, Dr. M. Francis Leary, Gaylord; vice-president, Dr. Bernard W. Slagle, Smith Center, and secretary-treasurer, Dr. Daniel W. Relihan, Smith Center. The society starts out with a membership of twelve.

Maryland.

CLARKE AND FREDERICK COUNTIES MEDICAL ASSOCIATION.—About fifty of the physicians of Frederick and Clarke counties have organized a medical society at Winchester with the following officers: Dr. William J. Best, Brucetown, president; Dr. P. Powell Page, Boyce, vice-president, and Dr. Samuel P. Latane, Winchester, secretary.

Book Notices.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, Thoroughly Revised. Fully Illustrated. Cloth. Pp. 1,300. Price, \$5.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

Anders' book has become recognized as one of the most practical works on the practice of medicine in the English language and no better proof of this is wanted than the fact that six editions have been called for in as many years. This edition is not simply a reprint of the former ones, but is rewritten in many parts. Especially is this true of the paragraphs relating to the etiology of malarial fever, yellow fever, and other diseases of presumed parasitic origin. The majority of the chapters show evidence of revision and every subject is brought thoroughly up to date.

THE MICROSCOPICAL EXAMINATION OF FOODS AND DRUGS. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs, in the Entire, Crushed and Powdered States. By Henry George Greenish, F.I.C., F.L.S., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain. With 168 Illustrations. Cloth. Pp. 316. Price, \$3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

The author makes a plea for the more general use of the microscope in the detection of adulteration of foods and drugs in the powdered form. Directions are given for the detection of the different starches and textile fibers; certain drugs such as lycopodium, ergot, etc., woody substances, leaves, barks, seeds, fruits, etc., of various kinds. The directions for mounting, preparing and examining are sufficiently elementary and full to satisfy every one who understands how to use the microscope. The book is well illustrated.

ELEMENTS DE SEMEIOLOGIE INFANTILE. Par le Dr. Fernandes Figueira, ancien chef de clinique pédiatrique à la Faculté de Médecine, Rio de Janeiro, Preface de M. Le Dr. Hutinel, Professeur à la Faculté de Médecine de Paris. Avec 78 figures dans le texte. Cloth. Pp. 632. Paris: Octave Doin, Editeur. 1903.

This work will fill a useful place in the hands of the practitioner who reads the language in which it appears. Though written by a Brazilian physician it is published in France and is, therefore much more accessible, as there are comparatively few readers of the Portuguese language. The author has brought together with much industry the principal symp-

tomatology and arranged it in a natural classification so that any particular symptom can be readily found. The book is fully illustrated and the cuts are generally good and instructive. Each chapter has attached to it a bibliography, and while we think more American authorities might have been quoted with advantage, nevertheless it shows that the author's reading has been very extensive and that he has taken his facts from all sources.

PHYSIOLOGICAL ASPECTS OF THE LIQUOR PROBLEM. Investigations Made by and Under the Direction of W. O. Atwater, John S. Billings, H. P. Bowditch, R. H. Chittenden and W. H. Welch. Sub Committee of the Committee of Fifty to Investigate the Liquor Problem. Vols. I and II. Cloth. Pp. 396 and 379 respectively. Price \$4.50 net per set. Boston and New York: Houghton, Mifflin & Co. 1903.

The alcohol question is one of the living issues of the day—a statement that can not be denied, whichever side of the question one may take. These two volumes form a valuable contribution to the literature of the subject and contain the testimony of perhaps the most competent experts on the various phases of the question. The general report of the subcommittee of the committee of fifty, consisting of Drs. J. S. Billings, W. O. Atwater, H. P. Bowditch, R. H. Chittenden and W. H. Welch, sums up the conclusions which were deduced from the various investigations reported elsewhere in the works. The rest of the two volumes is made up of separate reports on instruction in the physiologic action of alcohol, the effect of alcohol on digestion and secretion, the effects of the use of alcoholic drinks on brain workers and the relation of drink habits to insanity, the influence of alcohol on growth, the pharmacologic action of ethyl alcohol, the nutritive value of alcohol and its pathologic effects. The report on physiologic instruction gives the results of an inquiry by Drs. Bowditch and Hodge, who notice the opinions expressed in the textbooks of this country and Europe and criticize the instruction manuals endorsed by the Woman's Christian Temperance Union for primary and grammar schools, giving also the answers of public school teachers as to their opinions as to the fitness and value of these works and the instruction they convey. The opinions expressed are naturally various, both those of physiologic experts as well as those of school teachers, and the condemnation, by some, of the text books approved by the Woman's Christian Temperance Union is rather severe. We regret that the tone of this report is not a little more judicial. The report concludes with a summary of the state laws on physiologic instruction in regard to alcohol. The report on digestion and secretion by Dr. Chittenden is lengthy and complete, and may be taken as a very fair critical summary of our present knowledge of the subject as well as containing valuable original data. The data relating to the use of alcoholic drinks among brain workers and the relation of the drink habit to insanity are less valuable, it appears to us, as compared with certain other of the memoirs. The first consists mainly of the testimony of individuals and is, therefore, not entirely free from the possibilities of individual preferences or prejudices. That on the relation of the drink habit to insanity is necessarily incomplete and the statistics that can be obtained meeting all the requirements are rather limited. Dr. Hodge's memoir on the influence of alcohol on growth is interesting as well as that on the influence of alcohol on normal vital resistance of rabbits to infection. The experiments were naturally carried out on the lower animals, such as dogs and rabbits, and the facts are not necessarily applicable to the human species, still they are significant and interesting so far as they go. Perhaps the most valuable portion of the work is contained in the two principal memoirs of the second volume, namely, those on the pharmacologic action of ethyl alcohol, by Professor Abel, and on the nutritive value of alcohol, by Professor W. O. Atwater. Both of these are worthy of study by temperance workers and others. Considering the fact that Professor Atwater's assertion that alcohol as a food value has been largely utilized in some quarters, it is of interest to consider certain statements in which he speaks of alcohol as at best a very expensive sort of nutriment in healthy people and only valuable when the user is unable from disability or disease to obtain sufficient nourishment from ordinary food materials. The concluding passage reads as follows: "The

reason for emphasizing these facts is that any statement which compares the nutritive value of alcohol with that of ordinary food is in danger of being used by interested persons or those who are inclined to self-indulgence without the quality needed to work out the whole truth." The memoir on the pathologic effects of alcohol by Welch, though short, is excellent, and the Woman's Christian Temperance Union can derive all the arguments that it really needs from its statements. We believe the two volumes will serve a very useful purpose, and be in every way a sort of landmark in the discussion of the alcohol question. As to the general conclusions of the committee, which condemn—or perhaps to use a less emphatic term, discourage—systematic instruction of children in the primary schools on the subject of alcohol, there will, of course, always be a certain amount of difference of opinion. The question whether it is better to instruct young children as to the evil of alcohol or wait until they are older is perhaps one that teachers can decide better than we. What is said, however, about the teaching of specially isolated matter now being overdone is correct. It is important that what is told should be within the range of accepted probability, if not absolutely of demonstrated fact, and too much zeal has overdone the temperance instruction. The fact that quite a number of foreign physiologists to whom we owe a large part of our knowledge on the subject signed with reservations the statement by Sir Michael Foster which was sent them, is a matter of some little moment. It is unfortunate that there is so much difference of opinion on the subject, though the reading of this report and its contained papers shows that as regards the main points the authorities agree on the principal facts.

Society Proceedings.

COMING MEETINGS

Southern Surgical and Gynecological Association Birmingham Ala., Dec. 15
Western Surgical and Gynecological Association Denver, Dec. 28-29

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA

Stated Meeting, Oct. 6, 1903

Dr. A. C. Buckley in the Chair

Pneumonia with Hemiplegia

Dr. HARRY LOWENBURG reported a case of lobar pneumonia with delayed resolution but recovery, complicated by hemiplegia with partial recovery.

Dr. LUTHER C. PETER referred to the fact that hemiplegia occurs considerably in the infectious fevers, particularly typhoid, coming on usually during convalescence, when the circulation is exceedingly slow, and being usually due to a thrombosis. In the case described, however, he felt that the sudden onset pointed to an embolism.

Drs. M. P. WARMUTH and A. C. BUCKLEY reported cases

A Case of Ludwig's Angina

Dr. C. M. HARRIS described this disease. A streptococcus infection about the submaxillary gland and alveolar tissue beneath the mucous membrane in the floor of the mouth, with cellulitis tending to sloughing rather than to pus. Symptoms. Local discomfort followed in from two to four days by swelling and pain, pressure causing considerable dysphagia and sometimes salivation and dyspnea, in some, septicemia or gangrene. Treatment. Prompt incision and removal of any gangrenous tissue, application of carbolic acid, constitutional treatment for septicemia. He reported a case. A patient remained in a public bath two or three hours, the following day there was pain in the right ear and swelling in the right submaxillary region. The symptoms increased, a hard tense swelling unattended by external redness or any heat developed, and on the fifth day began to diminish, on the seventh day disappeared, and the mouth could then be opened, on the ninth day pus was discharged from the affected ear, this continued for about a week, when it ceased and the patient has since enjoyed good health. The constitutional treatment consisted of $\frac{1}{4}$

grain doses of calomel hourly for eight to ten hours during the first four days of the disease, and local applications of peroxid of hydrogen and other antiseptic solutions.

DISCUSSION.

DR. JUSTUS SINEXON reported a case of cervical cellulitis in an engineer. He was given 1/10-grain doses of calomel every hour for four or five days. On the fifth day an incision was made in the floor of the mouth without any result, which after the application of a belladonna ointment was followed by the discharge of a small amount of pus and the man made a good recovery.

DR. WILLIAM L. PEPPER referred to the frequency of the occurrence of cellulitis during epidemics of influenza, as well as in cases of peridontitis, which he ascribed to the infection traveling through the glands.

DR. T. TURNER THOMAS reported a case in which the incision had been made on about the seventh or eighth day of the disease, followed by hot applications of bichlorid. The patient had considerable dyspnea, which was increased after the operation, and during a severe attack a tracheotomy was attempted, but before it was performed the patient died. He felt that the danger in this condition was principally due to the fact that it involved the deep structures, the least resistance being in the direction of the mouth and throat. He recommended the employment of early free incision, and believed that the prognosis was also dependent on the kind of infection.

DR. HARRIS said that there was probably some danger in the conservative treatment, and that radical measures were probably the surest means.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Nov. 5, 1903.

The President, Andrew H. Smith, M.D., in the Chair.

Eye Lesions Occurring in Diseases of the Heart, Blood Vessels and Kidneys.

DR. CHARLES STEDMAN BULL presented this paper, and said that with obstruction to the return circulation a venous hyperemia of the retina is usually seen; in aortic insufficiency alternate reddening and blanching of the optic disc, frequently; in advanced heart disease, retinal pulsation, almost constantly; in fatty heart, as also in syphilitic, nephritic or diabetic degeneration of the blood vessels, numerous retinal hemorrhages, commonly. Thrombosis and embolism are common accompaniments of rheumatic endocarditis. Emboli of the choroid does not cause marked symptoms, but an embolism of the central trunk of the retinal artery causes sudden blindness, which is, with few exceptions, permanent. Occasionally a collateral circulation is established; this is favored by massage of the eyeball.

The most frequent lesions associated with disease of the kidneys are in the retina and optic nerve: (1) Degenerative inflammation of the retina with hemorrhages and whitish patches, and (2) an exudative inflammation, occurring with parenchymatous nephritis, and distinguished by whitish patches arranged in a stellate manner around the macula lutea, and usually accompanied by retinal hemorrhages and edema of the optic disc and surrounding retina. The disease is always bilateral, though it may appear in one eye before the other is affected. Retinitis albuminurica must be regarded as one of the terminal lesions of nephritis.

DISCUSSION.

DR. FRANCIS P. KINNICUTT said that amaurosis might occur in renal disease without the usual symptoms of nephritis. In some cases retinal changes are rather an indication of general vascular disease than truly albuminuric. With a well-marked retinitis and a history of chronic nephritis and of arterial disease death is probable in two years in hospital practice; but in private practice the prognosis is better.

DR. WARD A. HOLDEN considered the pathology of retinitis albuminurica, and the subject was further discussed by Drs. E. Gruening, J. W. Brannan and H. Knapp.

DR. THOMAS R. POOLEY said that too much stress should not be put on the occurrence of retinal pulsation, for, in a study of

this subject in connection with heart disease, he had found it exceedingly difficult in many instances to detect any pulsation. He doubted very much if the ophthalmoscopic picture supposed to indicate embolism of the central artery of the retina was really dependent on this cause. In nearly all of the carefully observed cases a thrombosis had also been found. The typical appearance of Bright's neuroretinitis was not often seen; in many cases of granular kidney he had only observed petechial hemorrhages. As one of the earliest writers in this country who had advocated the induction of premature labor in cases of albuminuric retinitis, he wished again to enter a plea for such practice. If labor were induced early, it was probable that sight would be restored.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

To Kill Bedbugs.

A member writes asking the best way of disposing of bedbugs. He has been unsuccessful in his endeavor to assist some patients in getting rid of them by means of fumigations with sulphur and formaldehyd. He has also tried carbolic acid and bichlorid of mercury in the strength used in surgery, which have proved a failure. In answer to his inquiry we would suggest a strong solution of bichlorid of mercury in alcohol applied to the bed, the object being to leave a good deposit of the bichlorid after the alcohol has evaporated. We feel sure of his success if he will make the solution sufficiently strong. This could also be used with a syringe in the crevices about the room.

A Good Cough Syrup.

A subscriber recommends the following well-tried combination for the relief of the cough in bronchitis:

R. Codinae sulph.	gr. iii	20
Ammon. chloridi		
Spts. chloroformi, aa.	3iiss	6
Syr. tolutani		
Ext. glycyrrhizae flu., aa.	5i	30
Acidi hydrocyanici dil.	gtts. xv	1
Aquæ q. s. ad	3iv	120

M. Sig.: One teaspoonful every four hours.

[This might be made more palatable by the omission of the glycyrrhiza or of the syrup of tolu, especially in cases with impaired digestion or appetite.]

High Arterial Tension.

According to an abstract in *N. Y. Med. Jour.*, M. Huchard lays but little stress on the value of the iodine preparations as reducers of arterial over-tension. Iodine medication, however, is indicated when marked arteriosclerosis is present, in which case the resolvent action of the iodine preparations is explained by phagocytosis. In the period preceding sclerosis iodine preparations, according to the author, are valueless, and in their stead the essential vasodilators should be employed, such as amyl nitrite, trinitrine or sodium nitrite.

The following combination is recommended by him:

R. Sodii nitritis	gr. iii	20
Pot. nitratis	gr. xv	1
Sod. bicarb.	gr. xxx	2
Aq. destil.	3ii	60

M. Sig.: The entire mixture to be taken at one dose and repeated once or twice daily; or:

R. Sodii nitritis	gr. xxx	2
Pot. nitratis	3iiss	10
Sodii bicarb.	3v	20
Aq. destil.	3x	300

M. Sig.: A dessertspoonful to a tablespoonful once or twice daily in half a glass of water. The advantages in the foregoing combination are that when the sodium nitrite is combined with the potassium nitrate and then rendered alkaline

with the sodium bicarbonate the sodium nitrite becomes less noxious and is of great value in lowering arterial tension, which remains low for some time after the preparation is discontinued.

Uremic Dyspnea.

The following method of producing profuse perspiration is recommended by *Jour. des Pract.* in the treatment of uremia:

R. Pilocarpinæ nitratis gr. $\frac{3}{4}$ 105
Vaselinæ $\frac{3}{4}$ 60

M. Sig.: To be rubbed into the chest and a bandage applied until profuse perspiration is produced.

A Tonic for Children.

Iodin, according to an abstract in *N. Y. and Phil. Med. Jour.*, is recommended as a tonic and alterative in poorly nourished children, combined as follows:

R. Tinct. iodi gr. lxxv 51
Ext. catechu $\frac{3}{4}$ v 20
Alcoholis $\frac{3}{4}$ ss 10
Glycerini $\frac{3}{4}$ ii 90
Syr. idaei $\frac{3}{4}$ vii 210

M. Sig.: One tablespoonful once or twice daily.

In rachitic children the following has been advised:

R. Acidi calcii phos. gr. lxxv 51
Tinct. es-entiae anis $\frac{3}{4}$ ss 10
Syr. simplicis $\frac{3}{4}$ vi 180

M. Sig.: One tablespoonful every morning before breakfast.

Chapped Hands.

Brocq of Paris, according to an article in *Ther. Gazette*, recommends the following treatment for chapped hands:

R. Glycerini $\frac{3}{4}$ ss 45
Tinct. peru. $\frac{3}{4}$ ss 15
Sodii salicylatis $\frac{3}{4}$ i 4
Aq. lactucarii $\frac{3}{4}$ vi 180

M. Sig.: Wash the hands with this solution twice daily; or:

R. Acidi tannici gr. viiss 50
Glycerini $\frac{3}{4}$ v 20
Aque rosæ $\frac{3}{4}$ iii 90

M. Sig.: Apply locally to the hands.

And as an ointment one of the following combinations should be applied at night:

R. Essentiæ rosæ gtt. i 106
Vanillin gr. viiss 50
Lanolini $\frac{3}{4}$ ss 45

M. Ft. unguentum. Sig.: Apply locally at night; or:

R. Menthol gr. xv 1
Salol gr. xxx 2
Olei olivæ $\frac{3}{4}$ ss 10
Lanolini $\frac{3}{4}$ ss 45

M. Ft. unguentum. Sig.: Apply locally at night.

La Grippe.

The following combination is recommended by *Rev. Française de Med. et de Chir.*, in the treatment of la grippe:

R. Antipyrini gr. xxx 21
Sodii benzoatis gr. xxxvii 250
Aq. laurocerasi $\frac{3}{4}$ ss 10
Syrupi codeinæ $\frac{3}{4}$ vi 24
Aque destil. $\frac{3}{4}$ iii 90

M. Sig.: One to two tablespoonfuls every hour until the entire amount is taken.

The Vaginal Douche.

In giving directions for the use of the vaginal douche, F. B. Robinson, in *Ther. Gazette*, states that a fountain syringe holding fourteen quarts should be used, which can be made from such a sized pail to which a tube is properly attached. A siphon tube may be employed. The patient should be instructed to begin with two quarts at a temperature of 105 F. and increase the heat daily until it is as hot as can be borne, and at the same time increase the quantity one pint each day until the fourteen quarts are taken. The douche should be used twice a day, morning and evening, resting for at least three-quarters of an hour after the douche. It should require, according to the author, at least thirty minutes to

take the douche of fourteen quarts. The patient while taking the douche should lie on her back with thighs flexed on the abdomen and legs flexed on the thighs. A handful of sodium chlorid and a teaspoonful of alum should be added to each gallon of water, the salt being used to dissolve the mucus and pus and the alum to act as an astringent, check waste secretions and harden the tissues. He condemns the use of carbolic acid as useless and the bichlorid of mercury as dangerous. Zinc and lead salts are not so valuable as alum as astringents, while mercurial salts, carbolic acid, boracic acid coagulate the discharge; however, the best disinfectants are carbolic acid and potassium permanganate. He recommends sodium sulphate as the best general solvent of the discharges, dissolving mucus, pus, leucocytes, etc. The best vaginal tube is the largest that can be conveniently used in order to distend the vaginal fornices and consequently allow the fluid to reach the upper end of the vagina. He employs a tube which is introduced in a closed state and expands after being so introduced. The value of the vaginal douche, according to the writer, consists in:

1. Contracting the muscle and connective tissue.
2. It contracts the lymphatics, veins and arteries.
3. It absorbs exudates.
4. It checks secretions.
5. It stimulates.
6. It relieves pain and cleanses the parts.
7. It checks hemorrhages and curtails inflammation and serves as a good drainage for the genital tract. Emphasis is also placed on the utility of the douche depending on the quantity, the temperature, its composition, the position of the patient and the systematic use. The douche, to be curative, should be continued for months.

Pains of Tabes and Neuritis.

Bouchard, in *Internat. Clinics*, recommends small doses of mercury and potassium iodid as a very efficient combination in the treatment of tabetic and neuritic pains combined as follows:

R. Hydrarg. biniodidi gr. 1/6 101
Potassii iodidi $\frac{3}{4}$ i 4
Aque $\frac{3}{4}$ iii 90

M. Sig.: Thirty drops to be injected locally about the seat of the pain.

The same treatment is also recommended in the obstinate late manifestations of syphilis. It aids in the rapid absorption of the gummatous lesion.

Chronic Eczema of the Scalp.

Shoemaker recommends the following combination in the treatment of chronic eczema of the scalp in children:

R. Creosoti m. viii 50
Hydrarg. chloridi mitis.
Camphoræ, aa gr. x 65
Ung. zinci oxidi $\frac{3}{4}$ ss 15
Olei olivæ q. s. ad. $\frac{3}{4}$ iii 90

M. Sig.: Apply locally to the scalp once or twice daily.

Spasmodic Croup.

L. Boyer, in *Med. Rev. of Reviews*, recommends the following treatment of spasmodic croup:

R. Hydrarg. chloridi mitis gr. iii 20
Sacchari albi $\frac{3}{4}$ ss 2

M. Ft. chart. No. viii. Sig.: One every two hours, alternating with the following:

R. Apomorph. hydrochlor. gr. 1/6 101
Acidi hydrochlor. dil. m. ii 12
Syr. simplicis $\frac{3}{4}$ ii 8
Aq. destil. q. s. ad. $\frac{3}{4}$ iv 120

M. Sig.: One or two teaspoonfuls every two hours.

Syrup of the Iodid of Iron.

M. C. Hoge, in an article in the *Virg. Med. Semi-Monthly*, recommends the syrup of the iodid of iron in teaspoonful doses three times a day as an alterative. It acts as a diuretic and promotes secretions and produces an increase in the patient's weight. He advises it in the dry, rasping coughs and colds

where ordinarily codein and quinin are used improperly. He also employs it in the treatment of amenorrhea and dysmenorrhea in scrofulous women in half-teaspoonful doses three times a day. To anemic subjects suffering from rheumatic gout he administers it combined with pure cod liver oil.

Medicolegal.

Damages Allowed for Loss of Eyesight.—In the personal injury case of *Vant Hul vs. the Great Northern Railway Company*, where the party suing, a young man of 18 years, lost the entire vision of one eye, and, according to the testimony, the other eye was impaired to the extent of about nine-tenths, with a strong probability that the sight would ultimately be entirely lost, the Supreme Court of Minnesota holds that it could not be said that a verdict of \$14,400 was excessive.

Seamen Entitled to Medical Care at Expense of Ship.—The Supreme Court of Washington says, in the personal injury case of *Sanders vs. The Stimson Mill Company*, that the authorities sustain the contention that under the maritime law a seaman who receives an injury while in the service of the ship is entitled to medical care, nursing and attendance, and to a cure, so far as is possible, at the expense of the ship, regardless of whether or not the condition of the seaman is brought about by the negligence of the owners of the ship, or is the result of disease or accident. But this does not go beyond expenses incurred in getting well. And it has been frequently decided that it makes no difference whether the medical attendance was on board the ship, or whether the party requiring the attendance had been removed to some other place. The action may be brought either in the federal or state courts. In the case of *Holt vs. Cummings*, 102 Pa. 212, the action was brought by the physician who waited on the disabled seaman, an engineer of a tugboat employed in the Delaware River.

Death from Appendicitis Caused by Bicycle Ride Not "Accidental."—The evidence of the party suing in the case of *Appel vs. the Aetna Life Insurance Company* tended to prove, what the Fourth Appellate Division of the Supreme Court of New York assumes for the purposes of the case, that the appendicitis which resulted in the death of the insured in this case was caused by a bicycle ride which he took. But the court declares that it can conceive of no theory on which it could be said, from the facts disclosed by the evidence, that the death of the insured resulted from "bodily injuries, effected . . . through external, violent and accidental means," within the meaning of the insurance policy sued on. The most, it states, that could be said was that the result was accidental, but the means which produced it were not accidental. The evidence wholly failed to show that the insured did anything which he did not fully intend to do, or that what he did was not precisely as intended; therefore, the result of such acts—his death—was not produced by "accidental means." The court's attention was not called to any case which holds, and it failed to discover any authority for the proposition, that a result which is produced by means all of which, and every detail of which, was intended, can be said to have been produced by accidental means, simply because the result which followed the employment of such means, exactly in the manner intended, was different from the result anticipated.

Failure to Use Tourniquet.—The Supreme Court of Pennsylvania says, in the malpractice case of *De Long vs. Delaney*, that the husband of the party suing had his leg badly crushed in attempting to board a railroad train and the party sued, a physician, was called in on the emergency to treat him. The physician rendered the first aids, washed and dressed the wound, bandaged the leg, and then relinquished the case to the family physician, who was expected, and arrived by the same train on which he (the first physician) left. The injured man remained under the care of the family physician for about two hours, and then was put on a train and

taken to a hospital, where his leg was found to have bled profusely, and where he died a few hours later from loss of blood. At the trial the party suing proved the foregoing facts; gave some evidence that a tourniquet was an instrument in common use among physicians for stopping the flow of blood, and that it had not been used by the physician sued. She then rested her case, and the trial court entered a non-suit, which the Supreme Court holds was proper. It says that the negligence relied on was the failure to use a tourniquet. But there was no evidence at all, from any witness competent to express an opinion, that a tourniquet should have been used, or that the tight bandage applied by the physician sued was not fully equivalent—in short, that there was any negligence shown. The jury could only have made an uninformed guess. Negligence can not be found in that way.

Validity of Contract Not to Practice in Old Locality.—Two physicians practicing their profession at a certain place as partners entered into a written contract for the dissolution of the copartnership, one purchasing the property of the copartnership, and the other agreeing not to practice medicine in the vicinity of that place. Commenting generally, the Supreme Court of Oklahoma says, *Hulen vs. Earel*, that these contracts do not seem to be unusual. The books are full of such cases, and probably more of those between physicians than of any other profession or trade. They have been uniformly upheld by the courts of the several states, where they have not been controlled by statutory provision, and equity has always granted relief by injunction to restrain a breach, for the reason, principally, that the injury arising from such breach can not be estimated or repaired. A suit at law affords no adequate remedy, and, the damage being continuing, and accruing from day to day, the object of the contract can only be obtained by the parties to the contract conforming to its express terms. It is, therefore, very proper for a court of equity to enforce such a contract by granting an injunction to prevent a breach when it is within the rules laid down and within the rules of the controlling statute. One of the controlling features in all of the cases on this subject seems to be that, if such contracts are not upheld, the subject-matter would not be salable. But the court holds that this particular contract was in violation of the Oklahoma statute and invalid, although it says that it would have been an easy matter for the parties to have made a contract complying strictly with the provisions of the statute, one of which is that one who sells the good will of a business may agree to refrain from carrying on a similar business within a specified county, city or part thereof, so long as the buyer or person deriving title to the good will carries on a like business therein, whereas it will be observed the contract here was not to engage in the practice of medicine in the vicinity of a certain place, without any limitation.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

November 14.

- 1 *Gonorrhea in Infants with a Report of Eight Cases of Pyemia. Reuel B. Kimball.
- 2 *Terminal Syphilis and Tabes. William J. Dougherty.
- 3 *Traumatic Separations of the Lower Epiphysis of the Humerus and Their Treatment by the Extended Position. With Report of Two Cases. Gilbert G. Cottam.
- 4 *Emulsion-Albuminuria. Isador H. Coriat.
- 5 Report of a Needle in the Prostatic Urethra. B. B. Foster.
- 6 A Case of Lead Osteoperiostitis. W. Moser.
- 7 Abdominal Pain in Pneumonia. Charles S. Grabin.

1. **Gonorrhea in Infants.**—From experience in the Babies' Hospital of New York, Kimball finds absolute isolation the only recourse in these cases. It might be possible to keep older children in the general ward, but with babies that have to be constantly handled this is impossible, and the utmost precautions are taken in his service to keep apart the clothing, wash cloths, thermometers, nursing bottles, etc. He sums up his conclusions in the following:

1. *Gonorrhea prevails among infants and children to an extent not fully appreciated by the medical profession at large, and has become a common epidemic in institutions where numbers of children are placed together.*

2. The ordinary clinical forms which the gonococcus infection assumes in children are ophthalmia, vulvovaginitis and pyemia.

3. A series of cases of pyemia, reported in this paper, occurred in infants in whom no local lesion could be found to explain the mode of entrance of the organism to the general circulation.

4. The suggestion is made that from a stomatitis due to the gonococcus such a systemic infection may arise. Gonorrheal stomatitis in infants is a disease that needs further study.

5. Only by careful exclusion by microscopical examination and by complete isolation can this disease be absolutely debarr'd from a hospital where infants are cared for.

6. There is urgent need of public enlightenment on this subject. Those in charge of institutions for children, trained nurses, and even parents should be taught the frequency and virulence of this infection and the ease with which it is spread. It should be the duty of health authorities to include gonorrhea among the acute infectious diseases of children.

2. *Tabes.*—The arguments for and against the syphilitic origin of tabes are reviewed by Dougherty, who concludes that in the great majority of cases at least, if not in all, the weight of evidence favors the late or terminal action of syphilitic poison.

3. *Separation of the Lower Epiphysis of the Humerus.*—The views of the various authors for the treatment of this condition are reviewed by Cottam, who points out their disagreements and then gives his own experience with the extension treatment in 2 cases. They are the only ones he has treated without loss of function to some degree, and he therefore feels encouraged to use the extended position in future, despite the weight of authority against it.

4. *Emulsion-Albuminuria.*—Cramer's type of albuminuria in urine with a milky appearance which is due to some proteid substance in a peculiar physical state is noticed by Coriat, who reports a fourth case in addition to the 3 already on record. Like Cramer's cases, it ended fatally. His case was one of alcoholic delirium with coincident parenchymatous nephritis, with anxiety, fear, cyanosis and suppression of urine. As in the other cases, the milky appearance only showed itself a few days before death and negative tests afforded proof of the absence of neutral fat. All the proteid reactions were present. He thinks we have here a new and hitherto undescribed form of albuminuria in which the proteid exists not in simple solution, but in an emulsion or rather a peculiar colloidal physical state, apart and distinct from the ordinary ones and one which widens our conception of albuminuria.

American Medicine, Philadelphia.

November 13

8 *Chronic Malaria. Complications and Sequelæ, with Special Reference to Digestive Complications. John C. Hemmeter

9 *Contribution to the Clinical Study of Cerebrospinal Meningitis. Thomas C. Ely and J. J. Snyder.

10 *The Gastrointestinal Disturbances Associated with Migraine. John A. Lichty.

11 *The Association of Valvular Heart Disease with Tabes. B. Franklin Stahl

12 *Operation in Hip-Joint Disease Without Shortening. R. Preston Robinson

13 *Gallstones and Gastric Hyperacidity. J. Kaufmann

14 Human Terata. Austin O'Malley.

8. *Chronic Malaria.*—By chronic malaria Hemmeter understands a condition in which the malarial parasite is continuously present in the blood and which is clinically characterized by relapses of fever, splenic tumor and various complications. Among the complications he notices particularly those of the gastro-intestinal tract and the so-called typho-malaria, coincidence with dysentery, the complication involving the spleen and liver and splenomegaly or Banti's disease. Gastric ulcer may be produced by the malarial parasite, as asserted by Bignami, and it is natural to presume that the same organism may produce lesions in the colon and intestine. The complications on the part of the nervous system are those of mania, as described by Yanarris, hysteria and possibly neuroses. Occasionally paraplegia and hemiplegia complicate malarial fevers, as also meningitis, and both lobar and lobular pneumonia may occur as complications. There is a form of estivo-autumnal fever in which the symptoms are chiefly referred to the lung, and are identical with those of lobar pneumonia, though microscopic examination shows that the lesions present differ widely from the typical pneumonia lesions. The prognosis in these cases is often bad;

always grave. Recovery is slow. Empyema may be a complication. Acute bronchitis is very frequent. Tuberculosis and malaria may occur simultaneously. Pleurisy and malaria are occasionally met with. Quinin does not invariably relieve these conditions, for some cases of chronic malaria are not relieved by quinin. Endocarditis may follow, and the ulcerative form occur. Functional diseases are very common. Nephritis is one of the most common complications, usually acute; it generally subsides after the cessation of the malarial attack. It is as much a consequence of malarial infection as it is a complication. Orchitis and epididymitis are rare, and usually have a history of gonorrhea.

9. See abstract in THE JOURNAL of October 17, p. 981.

10. *Migraine.*—Lichty calls attention to gastro-intestinal disturbances occurring with migraine, and says he has tried treating the disease on all the theories that have been evolved, but has fallen back on his old method of leaving off specific treatment, removing reflex and avoiding exciting causes. In many cases attempts at specific treatment have been not only useless but damaging. He remarks that there is no doubt that sodium salicylate has a decidedly beneficial effect. He thinks this is not due to its elimination of uric acid, but that it and calomel have a decided cholagogic effect and have the most efficacy as intestinal antiseptics and stimulants of bile secretion. By correcting the gastro-intestinal disturbance he has been able to reduce the frequency and severity of the attacks of migraine in many patients, sometimes completely curing them. He reports illustrative cases.

11. *Valvular Heart Disease with Tabes.*—The following are Stahl's conclusions:

1. Disease of some part of the circulatory system is present in nearly all cases of advanced tabes.

2. Valvular heart disease occurs in a large percentage of the cases.

3. The intimate relationship existing between syphilis and tabes and the pronounced circulatory changes induced by the former make it reasonable to regard syphilis as the cause of the large percentage of cases of valvular heart disease which we find associated with tabes.

12. *Hip-Joint Disease.*—Robinson reports and illustrates a case, and recommends the method of thoroughly clearing away all diseased bone and debris, carefully preserving the periosteum and stretching it along the track of the old bone and attaching it to the lower margin of the acetabulum. Then he stitches the muscles and fibrous tissue over the periosteum and stretches the leg full length, applying 15 to 20 pounds weight for extension. The wound is allowed to heal by granulation. The patient is instructed to sit up in bed two weeks after the operation and keep the weight on for four months, or a Thomas splint can be used and the patient allowed up after six weeks, but is not allowed to walk for six months. The results in the case that he reports have been excellent. The bone seems to have been reformed, and the limb is restored with comparatively no deformity.

13. *Gallstones and Gastric Hyperacidity.*—Kaufmann first notes Riedel's statement that 97 per cent. of gastralgic cases suffer from gallstones, and that the so called cases of gastric ulcer reported cured by regular treatment were not cases of ulcer at all. If without hemorrhage, he considers them due to gallstones which have been set at rest for a time by treatment. Kaufmann follows this up with the statement that he considers the examination of the stomach contents absolutely necessary in all cases with pain in the upper abdomen, and that hyperacidity and hypersecretion are closely connected with the formation of gallstones; much more so than generally considered. In looking over the history of his cases he finds that the patients had previously complained of milder disturbances that were attributed to gastric hyperacidity. The subject is one of more than theoretic interest, as a correct interpretation of the condition is necessary to carry out proper treatment. Gallstones do not always require operation; internal treatment often subdues the irritation. When hyperacidity and hypersecretion make it probable that the mucosa of the stomach and of the duodenum is chronically inflamed, we get the best results by lavage. Nothing acts better than the agents which favorably affect the inflamed

mucous membrane and other organs, such as solution of zinc and silver salts. By improving the chronic gastritis associated with hyperacidity and hypersecretion we may be able to prevent the formation of stones and set those already present at rest.

New York Medical Journal.

November 14.

- 15 *Urinary Hyperacidity. Thomas R. Brown.
- 16 *A Plea for the More Frequent Use of Antitoxin. C. F. Welden.
- 17 Acute Intestinal Obstruction and Necrosis of the Bowel Caused by a Gallstone. F. L. Strauss.
- 18 *The Fable of the Egg. William S. Ely.
- 19 Prostatic Hypertrophy and Similar Conditions. William B. Jones.
- 20 A Case of Rupture of Quadriceps Extensor Femoris Muscle. A. J. Ronglasky.
- 21 *The Operative Treatment of Chronic Bright's Disease; a Second Communication Based on Reports of 120 Cases. (Concluded.) Ramon Gutieras.

15. Urinary Hyperacidity.—In a former article Brown called attention to the symptoms which he attributes to this condition and which he thinks should be recognized as a cause of the syndrome simulating cystitis. If the acidity of the urine were tested in such cases an early diagnosis could be made and appropriate treatment adopted. Much unnecessary discomfort and pain would be spared the patient, beside the avoidance of the possibility of an erroneous diagnosis and inappropriate treatment. Two cases are reported.

16. Antitoxin.—Welden advocates the more frequent use of antitoxin in smaller doses. He has of late reduced the dose to 2,000 units and made the intervals between the injections shorter; that is, he uses it every three hours until there is a decrease in the severity of the symptoms. In this way we can keep the activity of the organisms under control. He reports one of his worst cases thus treated.

18. Value of Egg Diet.—The use of raw eggs in large quantities in the treatment of neurasthenia and fevers marked by high temperature and rapid waste, is advocated by Ely, who reports cases in which he gave from 12 to 24 raw eggs with up to a gallon of milk per diem. In a few cases some nausea, vomiting and diarrheal troubles followed, in which case he gave only the white of the eggs. He has given as many as forty-eight daily for many days to patients in critical stages of typhoid. They are useful for their supporting and restorative influence. Stimulants are correspondingly decreased. While he has had some patients die while taking eggs, he does not think death was due to their liberal use. He says in giving eggs we should not be chicken-hearted as to their quantity, nor fear albuminuria. In one typhoid patient with acute nephritis the albumin and casts vanished from the urine while thirty-six eggs a day were being taken. He advises a raw egg, swallowed whole every hour, in severe cases, and cites numerous instances of what he calls "the resurrection power of the egg."

21. Chronic Nephritis.—Gutieras' article is concluded in this number. He gives an extensive tabulation of cases, and ends with the following conclusions:

1. Chronic nephritis should not be operated on until medical treatment has proved of no avail.
2. The time for operation is when it is noticed that the process is advancing rapidly and we fear that the heart will soon become overtaxed.
3. The operation for chronic Bright's disease which has proved least dangerous and which has shown the best results, is nephropexy performed on a single movable kidney.
4. The most unfavorable cases for operation are those of diffuse nephritis.
5. Cases of general anasarca with bad heart action should not be operated on; if the heart action is good an operation performed as a *deruler ressort* may give the patients a few extra months of life, provided they survive it.
6. Where there has been a marked destructive process in the kidneys as a result of a nephritis, the operation may relieve them for a number of weeks or months, but they generally fail again and die when the new capsule begins to contract.

Boston Medical and Surgical Journal.

November 12.

- 22 *Present Problems—An Address to the Nurses of the Lakeside Hospital. J. G. Mumford.
- 23 *Stomachal and Intestinal Derangements and Affections of the Fauces, Pharynx and Air Passages. Beverley Robinson.
- 24 *Routine Treatment in a Genito-urinary Clinic: Functions of Such a Clinic. F. J. Cotton and R. F. O'Neil.
- 25 Some Principles Involved in the Therapeutic Applications of Radioactivity. William Rollins.

22. Nursing Problems.—Mumford's address is in its way interesting as not being exactly of the ordinary type of such addresses. He calls attention to the trials nurses are likely to experience, the lack of progress which is one of the drawbacks of the nursing profession, the mistake of starting in as special nurses, the ethical desirability of making concessions to the poor and especially to those of the middle class whose resources are limited but who are not exactly charity patients, the avoidance of Chauvinism, that is, the setting up of themselves as better than their sisters from other institutions; the choice of work, the probabilities of marriage, and the consequent curtailment of duties of the nursing profession as a life-work, etc. He advises nurses to cultivate some hobby outside of their profession to keep themselves broader-minded and more in touch with the outside world, neglecting, of course, none of their hygienic or their nursing duties.

23. Digestive Disorders and Affections of the Air Passages.—Robinson calls attention to the association of digestive and intestinal disturbances with affections of the nose and throat and the possibility of relieving the latter by attention to the former.

24. The Genito-Urinary Clinic.—The methods and experiences of the genito-urinary department of the Boston Dispensary are first described by Cotton and O'Neil, as well as their routine methods. They advise the use of strong carbolic acid, followed by alcohol in chancroids, subsequent instructing the patient to remove the scabs at each of the frequent home dressings. A thoroughly drained wound of this kind will rarely give rise to serious glandular complications, as their experience has shown. As regard urethral infection, they believe that the best treatment in all acute anterior gonorrheas is with copious and frequent irrigations combined in favorable cases with the use of protargol and other silver germicides. Later in the disease, astringent irrigations, medication by the endoscope and graduated stretching have their place. Posterior infections do best under not too frequent local treatment, begun only after the stormy stage is past. In the second part of their article they discuss the question of the routine treatment of gonorrhea and its value, the education of the patient and the public, protection of the patient's family and of the public, the education of the practitioner, student, etc. They believe it would be for the best interests of all concerned that a special genito-urinary clinic should treat cases of gonorrhea only under such conditions as are, in the surgeon's judgment, consistent with appropriate treatment and good results, refusing to help those who will not co-operate loyally in the treatment. The difficulty of keeping the patients under treatment is very great.

Medical News, New York.

November 14.

- 26 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (To be continued.) Charles F. Painter and William G. Erving.
- 27 *Treatment of Tapeworm. Samuel P. Gerhard.
- 28 X-ray Treatment of Cancer of the Uterus. Methods and Results. Sinclair Tousey.
- 29 *Why Not Absolute Precision in Chyme Analysis? Mark I. Knapp.
- 30 *Precipitins and Their Medical Use. (Continued.) James Ewing and Israel Strauss.

26. Chronic Villous Arthritis.—Painter and Erving's article is mainly a report of cases. Their view is that many of these conditions considered as tumors or lipomata are really degenerated villi, but they give rise to rather different symptoms than the ordinary synovial fringe. (The article is to be continued.)

27. Tapeworm.—The various remedies employed for tapeworm, such as male fern, koussou, pomegranate, turpentine, kamala, pumpkin seed, etc., are noticed by Gerhard, who finds the combination of male fern and pelletierine the most suitable. There is no necessity for the patient to make several days' preparation. The loss of one meal, breakfast, is all that is required. The patient is instructed to clear out the bowels the day previous with one or two large doses of castor oil or salts. One dose may be given in the morning and one at night, an hour or so after a light supper. The next morning as early as possible—say at 6 o'clock—give a dose of

pelletierine tannate, 20 gr., in two capsules. When this has operated freely, in about two or three hours begin with the following:

R. Oil resinae aspidill. 3ii
Aetheris 3ii
Hydragryl chloridill mitis. gr. xii
M. et div. in capsulae No. xvi. Sig.: Two every ten minutes.

Of course, no food is taken during this time. In two or three hours the worm will be expelled whole with the head. It is well to instruct the patient to pass all bowel movements into a vessel of warm water. No traction on the protruding worm should be permitted. The patient can then rest, and if there is any depression light food can be given.

29. Chyme Analysis.—The points emphasized in Knapp's paper are stated in the beginning as: (1) No better indicator is known for free HCl than supersaturated alcoholic solution of tropeolin 00. (2) That the dimethylamidoazobenzol as an indicator for only free HCl acid in chyme is absolutely wrong and misleading, but that as it reacts also on very weak solutions of organic acids it can be used for the quantitative determination of such acids. (3) That by the successive use of tropeolin, dimethyl and phenolphthalein in the same specimen of chyme we can determine, quantitatively, free HCl, organic acids and general acidity. The tropeolin solution used is prepared by throwing into absolute or very strong alcohol an excess of the powder of tropeolin 00 and leaving it stand for two or three days, shaking it up a few times. It is a dark cherry-red color, resembling tincture of iodine. To 5 c.c. of filtered chyme are added two drops of the tropeolin solution. If free HCl is present the stomach contents are colored a purplish-red, the intensity depending on the quantity of HCl. The further technic is shown. His summary is given as follows:

I want to reassert that, while dimethyl reacts very sharply on free mineral acids, it also reacts on other very weak acids: it reacts on such degrees of acidities of acids other than hydrochloric acid as are absolutely within the bounds of even a subacid stomach. That the supersaturated alcoholic solution of tropeolin 00 stands in no way behind the reagents of Günzburg and Boas, but that it has the additional advantage over these, inasmuch as it can be used for titration, and this with absolute precision. That both free hydrochloric acid and organic acids very, very often exist simultaneously. In the same chyme: that the presence of free hydrochloric acid does not negate the additional presence of organic acids, but that the presence of relatively large quantities of organic acids are abnormal and produce symptoms; that the presence of relatively large quantities of organic acids, either introduced into or formed within the stomach, gives the symptom-complex described by me as "Organic Acid Gastrica" [See THE JOURNAL, Sept. 20, 1902, page 719]. That the presence of organic acids can and should be tested for by my direct method—described by me as the floating test—a test very easily carried out in about a minute or two. That free hydrochloric acid, organic acid and the general acidity can be determined (and this has always been done by me) in one and the same specimen, thus enabling us to work with very small quantities and also to save time.

The floating test above alluded to consists in taking 1 c.c. of filtered chyme and 1 c.c. of ether and shaking them up to extract the organic acid. One drop of a 10 per cent. solution of the ferrichlorid is added to 2 c.c. of distilled water in a narrow test tube and on it is floated the clear ether extract. At the plane of junction of the ether with the iron solution a colored ring appears which varies with the different acids, as described in his original article. Care should be taken that only the clear ether extract is floated.

30. Precipitins.—Ewing and Strauss' article is continued. In this issue they give mainly the method and technic.

St. Louis Medical Review.

November 14.

- 31 A Case of Amebic Dysentery. R. M. Funkhouser.

Cincinnati Lancet-Clinic.

November 14.

- 32 Constipation. Frank L. Rattermann.
33 Carcinoma of the Breast. George J. Monroe.
34 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Medicine, Detroit, Mich.

November.

- 35 *Should a Tuberculous Lung Be "Exercised"? Norman Bridge.
36 Buccal Expressions of Constitutional States. Eugene S. Talbot.
37 Neuroses of the Stomach and Intestines. Frank P. Norbury.
38 A Contribution to the Technic of Embryotomy as Applied in Transverse Dystocia. L. A. Hering.
39 *The Early Diagnosis of Mental Diseases. C. B. Burr.

- 40 *On the Mortality Due to Congenital Malformations, with Especial Reference to the Problem of the Relative Variability of the Sexes. Raymond Pearl.
41 Epidemic Influenza—A Historical Sketch. Q. W. Hunter.

35. Should the Tuberculous Lung Be "Exercised"?—Bridge argues against lung gymnastics in tuberculosis, claiming that quiescence of the diseased lung is desirable for the sake of its healing. He thinks it is impossible to demonstrate benefit from lung gymnastics in tuberculosis.

36. Buccal Expressions of Constitutional States.—The conditions noted by Talbot are pyorrhea alveolaris, dental caries, gingivitis, etc., that occur in connection with diabetes and other conditions. The condition of the mouth is an index of the general health. The toxins generated in the mouth rapidly pass into the general system and also produce their bad effects in that way. Neurasthenia may entail a predisposition to interstitial gingivitis, as he has shown, and it in turn aggravates the original condition.

37.—See abstract in THE JOURNAL of October 24, p. 1041.

39.—Ibid.

40. Congenital Malformations.—Pearl has studied the mortality returns of the last Census for the sake of determining the fact as to the frequency of congenital malformations in the two sexes, and draws the following conclusions:

1. The mean age at death from fatal congenital malformations of the sorts included under title No. 150, of the International Classification of Causes of Death, is essentially the same in men and women. Hence it may safely be concluded that the mean intensity or degree of the malformations is not essentially greater in one sex than in the other. 2. The variations in the age at death from such malformations, as measured by the standard deviation and the coefficient of variation, is significantly greater in women than in men, and hence we may conclude that in intensity or degree of the malformations woman is more variable than man.

He thinks it is impossible to formulate any general rule that either sex is more variable than the other in the human species.

Journal of the Michigan State Medical Society, Detroit.

November.

- 42 *Conditions that Influence the Use of the X-ray in the Treatment of Epithelioma and Other Skin Lesions. Wm. F. Breakey.
43 *The Treatment of the Hypertrophies of the Lymphoid Ring. B. R. Shurly.
44 *Movable Kidney. J. A. Attridge.
45 Report of Seven Rare Abdominal Sections. I. N. Brainerd.
46 *Surgical Treatment of Fractured Spine, with Report of Four Cases. C. Harvey Rodd.
47 *The Effect of Anesthesia on the Body Temperature. W. H. Morley.
48 Congenital Dislocations of the Hip Reduced by Forceful Manipulations. Angus McLean.

42. The X-Ray.—Breakey believes that the use of the x-ray is specially indicated in malignant disease where excision is impracticable. It should be employed after thorough curetting and removal of all crusted masses and of epitheliomatous growth on the floor of the ulcer and under the everted roll of border of rodent ulcer and all unhealthy granulations. This can be done under cocaine anesthesia. Then after checking all hemorrhage and the application of a suitable chemical cautery, for which he usually prefers nitric, carbolic or pyrogallie acid, and the separation of the slight slough and beginning of granulation, the time has come when the conditions are most favorable for the therapeutic action of the x-ray. The occasional repetition of slight curetting or cauterization may be required. The use of the ray does not exclude other appropriate treatment.

43. Adenoids.—Hypertrophies of the "lymphoid ring," the faucial, pharyngeal and lingual tonsils, are considered by Shurly as causes of a large amount of the pathologic conditions and as entering points for infections. Chronic inflammations of these lymphoid tissues are of several varieties, such as the chronic lacunar, caseous or follicular inflammation of some authors, the chronic parenchymatous or the familiar enlarged tonsils. Polypoid hypertrophy is comparatively rare. There are many enlarged tonsils that are normal in structure and require no attention. Palliative methods, he thinks, as a rule, should be discouraged. Internal medication in the form of iodid of iron and hypophosphites is often exceedingly valuable. The question of hemorrhage must influence our choice of method and, therefore, the snare operation has many advocates. Sometimes ligation of the external carotid is re-

quired to stop the hemorrhage after other means of control have failed. The choice of the anesthetic is important. Nitrous oxid is usually enough, but may be supplemented by ether if necessary. Cocain infiltration is often very useful in office work. Objection to removal of the tonsils is sometimes made because singing teachers say it ruins the voice, and the laity believe this. Their complete removal may be followed by a temporary loss of the singing voice, especially several notes of the upper register, but this is due to the changed muscular movement of the pharynx. Where the operation is successfully performed and no ragged surfaces remain, the voice is restored. Enlarged tonsils cause vocal fatigue and acute inflammation. He speaks well of the general plan of clearing out adenoid vegetation of the pharyngeal tonsil, and insists in conclusion on the danger that these structures involve as regard the development of infectious disease, diphtheria, scarlet fever, etc.

44. Floating Kidney.—Attridge describes the condition and its treatment, and concludes that nephropexy has not generally met with favor because of the number of relapses which are due to insufficient fibrous union between the kidney and the lumbar muscle. Further, that Edebohls' operation produces as nearly perfect results as is possible by any other method known to the writer.

46. Fractured Spine.—This article was noticed editorially last week. Rodi says considering the hopelessness of spinal fractures, almost any risk is justifiable, and we should operate in every case, seeing that we may possibly do some good and certainly, if proper antiseptic precautions be taken, we can do no harm. When traumatism of the spine is associated with paraplegia an operation is indicated to determine whether the paralysis is not due to bony pressure incapable of spontaneous relief. The operation should be deferred no longer than the recovery from the original shock demands. The earlier it is done the easier it is to reduce displacements and remove the broken pieces of bone.

47. Anesthesia.—Morley has investigated the effect of anesthesia on the body temperature, and gives the results of temperature studies of 46 patients operated on, showing the curves. From his study of previous work and his own observations he concludes that ether anesthesia lowers the body temperature on account of the increased heat output through the dilated vessels and the lessened heat produced from diminished muscular action. Stringent precautions are required to keep the body from losing heat during the operation by having the patient well protected with lint and bandages and by having a warm operating room. Many of the so-called post-operative pneumonias are due to the chilling the patient gets under anesthesia.

Ophthalmic Record, Chicago.

October.

- 49 *Idiopathic Myositis Involving the Extraocular Muscles. J. E. Gleason.
- 50 A New Chloroform Inhaler. P. A. Jordan.
- 51 *The Correct Use of Terms in Ophthalmology. W. N. Suter.
- 52 An Unusual Case of Ptosis. L. A. W. Alleman.
- 53 A Case of Ossification of the Choroid and Vitreous. Frank Allport.
- 54 A Case of Vernal Conjunctivitis. Frank Allport.
- 55 Some Forms of Irregular Astigmatism; Their Detection and Correction. F. B. Eaton.
- 56 Case of Traumatic Ptosis of the Left Eye Operated on with Most Satisfactory Result According to the Method of Dr. Gruening or Gillet de Grandmont. W. B. Marple.
- 57 Papilloma of the Cornea. David H. Coover.

49. Idiopathic Myositis of the Extraocular Muscles.—In the case here reported by Gleason there was an acute idiopathic interstitial myositis of the superior rectus which produced exophthalmos and irritation demanding enucleation of the eye. An examination showed that this muscle alone was involved, and the only cause that could be determined was rheumatism. The case is of interest as showing that idiopathic myositis may occur in the ocular muscles.

51. Ophthalmologic Terms.—Suter disagrees with Suker (see JOURNAL, September 26, p. 811) as to the use of the terms anisometropia and antimetropia, as well as those of brachymetropia, hypometropia and myopia.

Journal of Cutaneous Diseases, New York.

November.

- 58 *Paludides: with the Histopathology of a Case of Malarial Purpura. Martin F. Engman.
- 59 Multiple Angiomata. Abner Post.
- 60 A Case of Creeping Eruption (Lee), Larva Migrans (Crocker), Ilyponomoderma (Kaposi). Henry W. Stelwagon.

58. Paludides.—This term, borrowed from the French, is used by Engman to designate the eruptions associated with malaria, among the more frequent of which is herpes simplex. He thinks the herpetic lesions from this cause are more severe and painful than from others. The febrile form with general malarial symptoms is familiar to every one. The non-febrile type is especially noted. Herpes zoster has often been associated with malaria in connection with pompholix, which he considers a vasomotor disturbance of toxic origin. Urticaria is, according to Thayer and others, the most frequent eruption in malaria, and there are three types: that accompanying the malarial paroxysm and usually appearing during the febrile stage; that replacing the chill, the other features of the paroxysm remaining; that taking the place of not only the chill but of the entire paroxysm. The latter class is the one most frequently seen by the dermatologist. There is nothing peculiar or characteristic about this except its periodicity and evanescence. Erythema multiforme has been observed by Engman, and other authors have also noticed similar cases. Malarial infection is often complicated by kidney lesions and albuminuria with casts which, when an eruption is present, may lead to an erroneous diagnosis of both the skin lesions and underlying condition. Several of Engman's cases have had a marked nephritis which cleared up under antipaludal treatment. Eczema in its different forms is noticed. Purpuric eruptions, while rare, are sometimes observed. His own experience with them is limited to 2 cases which he reports. Ulceration and gangrene of the skin, associated with malaria, particularly of the estivo-autumnal type, have been reported by several authorities besides the author.

Buffalo Medical Journal.

November.

- 61 Our Relations to a Few of the Problems in State Medicine. John L. Heffron.
- 62 Bilateral Abductor Paralysis of the Larynx. Adolph H. Urban.
- 63 Diagnostic Palpation of Prolapse of the Kidney and Method of Fixation. Augustin H. Golet.
- 64 Gastrojejunostomy for Pyloric Obstruction. William S. Cheesman.
- 65 *Squint and Its Modern Treatment. F. Park Lewis.

65. Squint.—Lewis argues for the early recognition and correction of squint and the use of glasses as soon as they can be worn. Fusion training should be at once employed under the direction of the surgeon to correct incipient amblyopia before the defect becomes fixed. Surgical intervention should be undertaken as soon as its necessity becomes established, and should consist of tenotomy or advancement, or both, at such time as will permit of perfect fusion if the correction by glasses and training does not suffice.

American Journal of the Medical Sciences, Philadelphia.

November.

- 66 Report of a Case of Sarcomatosis Cutis, Together with an Analytical Study of Fifty Other Cases Collected from the Recent Literature. J. C. Wilson and Frederick J. Katterer.
- 67 *Uncinariasis in Texas. Allen J. Smith.
- 68 *The Occurrence of Uncinariasis (Ankylostomiasis) in Soldiers of the United States Army. Charles F. Craig.
- 69 *Tuberculosis of the Tonsils and the Tonsils as a Portal of Tubercular Infection. Henry Koplik.
- 70 *The Etiology of Nasal Polypl, with Especial Reference to Their Association with Other Pathological Conditions. Francis R. Packard.
- 71 *Hypertrophic Tuberculosis of the Larynx. Clement F. Thelsen.
- 72 Obstruction of the Bowels and Peritonitis Due to a Strangulated Meckel Diverticulum. John H. Gibbon.
- 73 Two Cases of Retroperitoneal Hernia. Louis J. Mitchell.
- 74 Splenic Anemia. A Report of Three Cases. J. A. Scott.
- 75 Spondylitis Deformans. John Rubrah.
- 76 A Case of Osteitis Deformans, with Heart Complications. Charles J. Foote.
- 77 A Case of Aneurism of the Innominate Artery; Ligation of the Right Common Carotid and Subclavian Arteries, Followed by Secondary Hemorrhage and Death. John G. Sheldon.
- 78 An Improved Form of Stethoscope. Henry E. Wetherill.
- 79 The Fermentation Theory of Infection and Immunity. J. W. McLaughlin.

67. **Uncinariasis in Texas.**—Smith reports cases as he has observed them in students and gives a history of the disease since its discovery in this country.

68. **Uncinariasis in the United States Army.**—The same subject is taken up by Craig, who reports his military cases and analyzes the symptoms. He thinks the most important means of infection is by swallowing the worms, but attributes considerable importance to infection through the skin.

69. **Tuberculosis of the Tonsils.**—Cases are reported by Koplik illustrating infection of the tonsils by tubercle germs, showing that the tonsil is a seat of primary tuberculosis, though rarely as compared to the pyogenic forms of infection. The tubercular tissue appears in the form of giant cells and tubercular nodules; cheesy degeneration is not common. It is exceptional to find the tubercle bacilli abundant. Tubercular ulcerations are rare; as a rule, the lymph nodes leading from the tonsil are affected. Some of these tonsillar affections have been preceded by a simple catarrhal or diphtherial inflammation, and the tonsillar infection may be the source of the general tuberculosis. As far as tuberculous of the cervical lymph nodes is concerned, when found isolated and of a primary nature, it can be justifiably claimed that the infection proceeded from the tonsil.

70. **Nasal Polypi.**—Packard found from his studies that nasal polypi are probably symptoms of underlying conditions, not tumors; that they are based on the existence of diseased bone, and if the latter is removed they do not reappear.

71. **Laryngeal Tuberculosis.**—The form of hypertrophic or hyperplastic laryngeal tuberculosis, of which a case is reported by Theisen, is considered by him as a distinct and unusual form of the disease. As a rule, there is no ulceration, but there may be some occurring later. It may be present at the same time as the hyperplasia of the tissues in some part of the larynx, but the characteristic circumscribed hypertrophies and tumor formations do not break down. It is practically always secondary to the pulmonary involvement, though there appears some evidence that it may occur as a primary affection.

Clinical Review, Chicago.

November.

80 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. Hamilton Levings.

81 Skiascopy in Refraction. F. W. Kettlestrings.

82 *On the Therapeutic Value of Bloodletting with a Report of Cases. G. B. Hassin.

82. **Blood-Letting.**—Hassin refers to the teachings of Botkin and Zakharin as regards blood-letting, pointing out where it may be of value as a revulsive measure. He considers Reyburn's paper in THE JOURNAL of June 6, 1903, as an important article on a subject which he thinks is too much neglected in modern practice. He reports 3 cases which illustrate the great value of venesection in the relief of hemorrhoids with periodic bleeding, in cerebral congestion and in a complication of symptoms associated with hemorrhoids which he diagnosed as hyperemia of the spinal meninges. He remarks that in Russia even at the present time there are people who are accustomed to being periodically bled by barbers and others.

The Physician and Surgeon, Detroit and Ann Arbor.

September.

83 *The Most Rational Method of Operation for Hemorrhoids. Emil Ries.

84 *The Dispensing Problem. Walter J. Wilson, Jr.

85 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. (Continued.) Ephraim Cutter.

83. **Hemorrhoids.**—The operation by the clamp and cautery is criticised by Ries as being imperfect and tedious, painful and predisposing to infection. The ideal method should lead to primary union, be applicable in all combinations of hemorrhoids, should preserve the natural configuration and function, and insure quick and safe recovery with little or no pain. The only method which meets all these indications in his opinion is excision and suture of hemorrhoids, not the Whitehead operation, but cutting out of the hemorrhoid in the longitudinal axis of the intestine and sewing it up with continuous catgut suture. He has used the method for external and internal piles, in all combinations, and there has been no

difficulty in taking care of the inflamed as well as the non-inflamed piles. The line of excision and suture being always in the long axis of the bowel, there is no danger of subsequent stricture. The amount of mucous membrane and skin to be removed is absolutely under the control of the operator, and the shape and configuration of the anus can be perfectly preserved. A safe and quick recovery and absence of pain are proved by his description of the cases. He keeps the patient on a light diet and advises him to be careful as to sitting down; moves the bowels on the third morning after the operation and keeps up the regular bowel movements afterwards at least every second day. When the patient leaves on the sixth or seventh day he is instructed to see that the bowels move once a day, to take two tub-baths a day for one week and one bath a day after that, and to use wet cotton or a bath for toilet purposes instead of paper. He says whoever gives this method a fair trial can see to his own and his patient's pleasant surprise how well it works.

84. **The Dispensing Problem.**—The conclusions reached by Wilson are that physicians should prescribe nothing which they do not thoroughly know. The prescription should be put up by a qualified pharmacist who makes a specialty of such work. There should be an understanding between physicians and pharmacists that no repetition of prescriptions is permissible without the consent of the physician. A pharmacist should be found who does not sell patent medicines or at least does not push them, and who as far as possible keeps them out of sight. The pharmacists and physicians of every locality should have a joint meeting of their respective societies at least once a year to exchange ideas, and there should be a uniform practice regarding the dispensing of prescriptions.

New Orleans Medical Journal.

November.

86 *Apomorphin Hydrochlorate and Its Use as a Sedative and Hypnotic in Acute Alcoholism, with Report of Cases. Paul R. Bechet.

87 Reports of Cases of 1. Parasites in the Nasal Cavity; 2. Cocklebur in the Naso-pharynx of a Ten Month-Old Child; 3. a Case of Anophthalmos. Oscar Dowling.

88 Hemophilia Complicated by Attacks of Multiform Erythema of the Hemorrhagic Type. T. H. Young.

86. **Apomorphin.**—A number of cases are reported by Bechet, who finds that strychnin counteracts the heart depression and the depression of respiration which follows the use of apomorphin in frequent doses, but that apomorphin acts as well in delirium tremens as in the other conditions of alcoholism, and is indicated in combating such a condition. It is better to begin with a small dose, about 1/30 gr. and increase it if necessary. In his case 1/15 gr. was the largest dose required.

Medical Review of Reviews, New York.

October 25.

89 *Food Adulteration: Its Nature and Extent, and How to Deal with It. Willis G. Tucker.

89. **Food Adulteration.**—Tucker, the director of the Bureau of Charity, New York State Department of Health, calls attention to the fact that food adulteration is not necessarily food poisoning. Much of the adulterated food is innocuous, and he goes over the various preparations pointing out that the great majority are fairly free from dangerous adulterants. Milk is often watered and preservatives added. Butter and cheese have been manipulated and sophisticated, but many of these evils have been checked. Canned goods are often poor in quality and preservatives have been used, but they are not necessarily bad from a sanitary point of view. He thinks that in this matter there is a disposition to respect the laws. Sophistication he thinks is little met with in the cereal foods, though some special foods like gluten breads and flour are not what they are claimed. Fresh vegetables and fruits are often sold in an unripe and rotten state, but that it not exactly adulteration. Sugars are generally pure. Jams, jellies and marmalades are often fictitious mixtures compounded with glucose, gelatin and artificial flavors, but not always necessarily unwholesome, and the purchaser can generally tell what he is getting. Tea and coffee are fairly pure. Chicory is often added to ground coffee, but generally in response to a demand rather than as an adulterant. When sold unground,

coffee is reliable. Spices, however, are quite generally adulterated. While the substances employed are usually harmless the practice is one that should not be condoned. Flavoring extracts are also adulterated, as are olive oil, vinegar, etc., but he says it is immaterial whether the vinegar used is made from cider, malt or whiskey. The dilute acetic acid of the U. S. P. containing 6 per cent. of absolute acid would perhaps be preferable to anything else, and Dr. Squibb once informed him that he used it in preference to vinegar on his own table. He mentions at some length the adulteration of liquors, and in conclusion makes some suggestions in regard to legislation. He thinks unnecessary legislation should be discouraged. We should set our own standards. We should endeavor to define articles precisely in framing food laws, and prescribe definite standards of quality or purity. This may be difficult, but often is quite practicable. There are very few articles employed in foods which should be absolutely prohibited; for example, he does not think the use of boric, benzoic and salicylic acid should be prohibited, but the articles in which they are employed should be labeled and the facts stated. The proper and honest labeling of all foods should be demanded and encouraged by the law. He thinks there is much more commercial honesty in the world than was formerly the case, and things are better than they were.

American Gynecology, New York.

October.

- 90 *Tuberculosis of the Vaginal Portion and of the Uterus, with the Report of a Case. Hiram N. Vineberg.
- 91 A Sketch of the History of Obstetrics in the United States up to 1860. (Continued.) J. Whitridge Williams.
- 92 *Thrombosis of the Femoral Veins Following Aseptic Laparotomy. E. R. Secord.
- 93 *A New Treatment of Dysmenorrhea. Emil Ries.
- 94 Report of Three Cases of Intussusception in Children. R. E. Skeel.

90. Tuberculosis of the Uterus.—Tuberculosis of the uterus is not uncommon, but is most frequently confined to the body of the uterus. When it appears in the cervix it occurs in several forms; in the form of a cauliflower growth showing a tendency to bleed, which is frequently mistaken for carcinoma but is less friable. The absence of the finger-like lesions characteristic of carcinoma will help to distinguish it. Microscopic examination will decide the diagnosis. In the ulcerative form the ulceration is usually well defined with sharp, undermined edges, and the surrounding tissue may be normal or studded with miliary tubercles. The ulceration may be covered with grayish exudate of broken-down caseous material, as in the case here reported by Vineberg. The diagnosis was reached by him by exclusion, and was not shaken by the report that no tubercle bacilli were found in the exudate. Microscopic examination of fragments of the tissue confirmed the diagnosis. The vaginal portion in the third form is studded with miliary tubercles, as may also be the cervical mucosa, and tubercles may penetrate the whole surface of the cervical wall (Vassmer). This form is easy of diagnosis. Lastly, the tuberculous portion may be localized to the superficial epithelium of the glands, the latter being filled with masses containing numerous tubercle bacilli. This is the bacillary catarrh described by Schütt. In the great majority of cases the cervical disease is secondary to disease higher up, and the treatment will be subsidiary to the treatment of other lesions. In primary disease of the cervix, amputation may be all that is required, as in the case reported by Frank. Vineberg thinks that more cases of cervical tuberculosis will be observed as the attention of the profession is more directed to the subject.

92. Thrombosis of the Femoral Vein Following Laparotomy.—From a study of the literature and of the case here reported, Secord concludes that no single etiologic factor is alone responsible for the occurrence of this complication, and that the rôle of infection in otherwise non-infective cases does not appear to be of chief importance. The conditions of sudden decrease of pressure depending on the operation probably have an active influence. The treatment should be prophylactic, avoiding unnecessary injury, hemorrhage, or sudden decrease in tension, and having the wound area supported by firmly applied dressings. As far as he has been aware, there has been no mortality in the cases but the occurrence of pulmonary em-

bolism in some warns us that a fatal termination is not impossible.

93. Dysmenorrhea.—Ries calls attention to the suggestions of Fliess as to the genital spots in the nose and their local treatment by cocain as a relief for dysmenorrhea. He thinks it would be advisable to make a series of experiments to determine the nodus and the value of the treatment: 1. Use the method according to Fliess, that is, touching up the genital spots; 2, the use of cocain in the pharynx; 3, the use of cocain on the areas outside the genital areas in the nose; 4, the use of some astringent solution instead of cocain, and 5, the use of plain water at body temperature. Of course, the patient must be ignorant of what solution is being used. He suggests, however, a suspicion as to one point, that is, the possible encouragement of the cocain habit, and asks for testimony of whose who have had chances of observation, as to whether this habit has been thus aroused or whether cocain habitués ever suffer severely from the dysmenorrhea without relief from the cocain habit.

International Journal of Surgery, New York.

November.

- 95 *Diagnosis and Treatment of Injuries to the Spine. W. J. Means.
- 96 On Opening of the Pouch of Douglas and Separation of the Bladder from the Uterus. James H. Burtenshaw.
- 97 The Treatment of Prolapsus of the Uterus. Harvey P. Jack.
- 98 The Surgical Assistant. (Continued.) Walter M. Brickner.
- 99 A Unique Case of Hydrosalpinx. A. Palmer Dudley.

95. Injuries of the Spine.—Means reports a number of cases and sums up his conclusions that all spinal injuries, no matter how slight, should be carefully examined at first sight, and owing to the frequency of secondary developments a guarded prognosis should be given. There are no positive signs of complete severance of the cord in the primary stage of an accident. The treatment of spinal injuries other than operative consists, first, in rest in the horizontal position, application of cold, attention to the bladder and rectum, and, second, in massage, galvanism and stimulating solutions. Laminectomy performed after reaction from shock is not dangerous, and is the only rational treatment for pressure on the cord from a blood clot or a bone depression. Relief may often follow operation several months after the inception of injury.

Medical Standard, Chicago.

November.

- 100 The History of Nephritis. Arthur R. Elliott.
- 101 The Mechanism of the Accommodation of the Eye. J. F. Burkholder.
- 102 *Venesection: Its Use and Abuse. C. F. Wahrer.
- 103 Some Cases of Venereal Disease. Alexander Memelsdorf.
- 104 *"Physiological Aspects of the Liquor Problem"—A Criticism. Lawrence Irwell.
- 105 The So-called Antiseptic Treatment of Typhoid Fever. James G. Mastin.
- 106 Perineuritis of the Spinal Nerves. A. W. Baer.

102. Venesection.—Wahrer considers that venesection has its value and that those who are not afraid to face popular prejudice against it will meet with success when they employ it in properly selected cases. He reports a number of cases showing its utility. Certain cases, such as pneumonia, reflex hepatitis, congestive headaches, cerebral congestion, etc., are favorable for this treatment. He also mentions that in uterine congestion it is frequently useful as an adjunct. In dilated right heart and pulmonary congestion, eclampsia with high arterial tension, pulmonary emphysema and some cases of thoracic aneurism, iritis of the plethoric, in uremia with acute renal congestion, and especially maniacal uremia, as well as in the acute nephritis of the robust, bleeding is almost always useful. It is also of value sometimes in stout people in reducing a dislocation and rendering it possible when otherwise impracticable. Its action, he thinks, is chiefly mechanical. It should not be used as a routine measure, but its indications depend on the knowledge of the pathologic processes present.

104. The Liquor Problem.—The report of the committee of fifty on the physiologic aspects of the liquor problem, which has been noticed elsewhere, is severely criticised by Irwell. He accuses the compilers of using an antiquated authority because it specially emphasizes the food value of alcohol. He also criticises Dr. Atwater's work, which he thinks is

based on his "fad" of accepting oxidation as a test of food value. He considers the W. C. T. U. methods condemnable, but that does not excuse the method of handling the subject by the committee of fifty.

Medical Fortnightly, St. Louis.

November 10.

- 107 *Neuroses of the Stomach and Intestines. Frank Parsons Norbury.
- 108 The Card System in Medical Practice. Carl E. Black.
- 107.—See abstract in THE JOURNAL of October 24, p. 1041.

Northwestern Lancet, Minneapolis.

November 1.

- 109 Syphilis. John Sutherland.
- 110 A Case of Leukemia. C. H. Bradley.
- 111 Atypical Forms of Mucoid Disease. H. McI. Morton.
- 112 Iodipin. J. T. Moore.

Kansas City Medical Index-Lancet.

November.

- 113 Address, Jackson County Medical Society. W. S. Wheeler.
- 114 Electro-cautery Incision for Ectropion and Entropion. Flavel B. Tiffany.
- 115 Report of Cases, Appendicitis, etc. Thomas J. Beattie.
- 116 Treatment of Acute Bronchitis in Infants. J. B. Norman.
- 117 The Fundus Oculi in Hereditary Syphilis. J. W. Sherer.
- 118 Surgery of the Thyroid. (To be continued.) Benjamin M. Ricketts.

Canada Lancet, Toronto.

November.

- 119 *Inaugural Lecture, New Medical Building, Toronto. Charles S. Sherrington.
- 120 *The Master word in Medicine. Wm. Osler.
- 121 An Address on Receiving the Degree of LL.D. (Honoris Causa) from the University of Toronto, October 2. W. W. Keen.
- 122 The Technique of Gastro-enterostomy. Theodore A. McGraw.
- 123 Conservative Gynecology. A. Lapthorn Smith.
- 124 *The Cardiac Complications of Influenza. E. G. Wood.
- 125 The Relation Between the General Practitioner and the Specialist in regard to the Treatment of Intra nasal Disease. J. Price Brown.
- 126 A Provincial Sanatorium for Manitoba. J. O. Todd.

119.—This article appeared elsewhere. See THE JOURNAL of November 14, title 107, p. 1233.

120.—Ibid., November 21, title 127, p. 1303.

124.—See abstract in THE JOURNAL of September 12, p. 680.

Providence Medical Journal.

November.

- 127 Tent Life for Consumptives in Rhode Island. A Brief History of Pine Ridge Camp: Its Inception, Achievements and Plans. Henry B. Potter.
- 128 Electricity as a Therapeutic Agent. Marcus F. Wheatland.
- 129 Exclusive Milk Diet in the Treatment of Disease. Max B. Gomburg.
- 130 Rupture of the Uterus. G. Edward Buxton.

Merck's Archives, New York.

November.

- 131 Aconitum Napellus. W. H. Blake.
- 132 Pain in the Heart. G. Miller.
- 133 Syphilis and Scrofula. S. D. Warnock.
- 134 An Index of Diseases Alphabetically Arranged with Their Modern Treatment. (Continued.) G. Bjorkman.

Memphis Medical Monthly.

November.

- 135 *Masked Epilepsy. W. B. Fletcher.
- 136 Some Notes on Melancholia and Mania, with Differential Diagnosis. Ernest W. H. Booker.
- 137 Some Medical Notes of a European Trip. E. C. Ellett.
- 138 Delayed Secondary Hemorrhage Following Tonsillectomy. Report of Two Cases. Richmond McKimney.
- 139 The Etiology of Eclampsia. William A. Sim.
- 140 Pneumonia. W. S. Robinson.
- 141 A New Tonsil Forceps. Richmond McKimney.

135.—See abstract in THE JOURNAL of October 24, p. 1041.

Denver Medical Times.

November.

- 142 Causes of Epigastric Pain. J. N. Hall.
- 143 Priorile Obstruction. A. C. Behle.
- 144 The Importance of More Careful Rectal Examination, and the Value of Proctoscopic Examination in Proctitis. Fred P. Tuxbury.
- 145 The Iatrogenic Effects of the Excessive Use of Salt—Chloride of Sodium. (Continued.) W. B. Parsons.

Medical Summary, Philadelphia.

November.

- 146 Rheumatism in Children. Ira A. Marshall.
- 147 Exercise. J. L. Wolfe.
- 148 Neurasthenia Versus Spinal Irritation. F. R. Brubaker.
- 149 Rational Abundant Treatment. W. C. Buckley.
- 150 Linen and Woollen Underwear. N. R. Shade.
- 151 Abortion—Hemorrhage. J. S. Leachman.

- 152 The Rational Treatment for Tuberculosis. L. G. Doane.
- 153 Hemorrhoids and Their Treatment. W. B. Wood.
- 154 The Treatment of Dyspepsia. L. Bennett.
- 155 A Chat with the Brotherhood. Luigi G. Doane.

Fort Wayne Medical Journal-Magazine.

October.

- 156 Some Points Concerning Arteriosclerosis. B. Van Sweringen.
- 157 Strapping the Breasts: Is It Right? H. V. Sweringen.
- 158 Biliary Obstruction as a Cause of Nephritis. Miles F. Porter.

Oklahoma Medical News-Journal, Oklahoma City.

November.

- 159 The Modern Non-surgical Treatment of Abscesses. William F. Waugh.

American Journal of Obstetrics, New York.

November.

- 160 *Address, American Association of Obstetricians and Gynecologists. L. H. Dunlap.
- 161 *Relationship of the Colon to Abdominal Tumors. James F. Baldwin.
- 162 *The Value of Vaginal Cesarean Section, with Report of Two Cases. M. Stamm.
- 163 *The Limitations of Cesarean Section. E. Gustav Zinke.
- 164 *The Gilliam Operation: A Clinical Contribution. Edward J. Hill.
- 165 *Analysis of Common Causes of Death Following Pelvic and Abdominal Operations. Joseph Price.
- 166 *Report of a Fourth Consecutive Successful Operation for Acute Perforated Gastric Ulcer, with General Infection of the Peritoneal Cavity. H. Howitt.
- 167 *Should the Uterus and Ovaries Be Removed in Operating for Double Pyosalpinx? Carlton C. Frederick.
- 168 *The Indications and Technique of Vaginal Drainage for Suppuration in the Pelvis. A. Goldspohn.
- 169 *Shortening the Round Ligaments by the Blunt-hook Method, with Report of Cases. H. W. Longyear.
- 170 In Memoriam: William E. B. Davis. L. S. McMurtry.
- 171 *The Rational Treatment of Post-partum Infections of the Uterus. D. Tod Gilliam.
- 172 *Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen, with Report of Cases. John Young Brown.
- 173 *Infantile Uterus, Scanty Menstruation, Amenorrhea and Dysmenorrhea Cured by Stem Pessaries. J. H. Carstens.
- 174 Surgery of the Ileocecal Valve for Non-malignant Disease. N. Stone Scott.

160.—See abstract in THE JOURNAL of October 17, p. 979.

161, 162, 163, 164, 165.—Ibid., October 3, pp. 871 and 872.

166, 167, 168.—Ibid., October 10, p. 924.

169, 171.—Ibid., October 17, p. 979.

172. Abdominal Wounds.—Brown advocates prompt operative interference in these cases, notwithstanding the unfavorable experience in military surgery. At the St. Louis City Hospital the practice is to immediately prepare for laparotomy, enlarge the wound of entrance, and track the bullet with the sterile finger. The probe is never used except to complete investigation. Brown has repeatedly seen symptoms point to perforation, and has not found it on operation, and vice versa. There is only one safe course. The hydrogen gas test of Senn he considers not safe, as when it is used in case of perforation fecal extravasation is bound to occur. The extent of injury done by a bullet can never be determined until the abdominal contents have been thoroughly gone over. In stab wounds the location of the wound should govern us, both as regards the length and situation of the abdominal opening. The importance of a systematic search is emphasized, as to close some perforations and not all would defeat the whole object. Brown is a believer in the virtue of irrigation and drainage in the treatment of wounds of this character. He always uses normal saline solution with a flush tube and the funnel of Price to clean the cavity. The region of the liver, spleen, both iliac regions and pelvis are flushed until the fluid returns clear. This is as a rule done at the completion of the operation. In cases where shock is severe it is his custom to fill the pelvic cavity with salt solution as soon as the abdomen is opened; it is rapidly absorbed, and it is remarkable how quickly the pulse will respond. The greater part of the paper consists of accounts of individual cases.

173.—See abstract in THE JOURNAL, October 17, p. 980.

Medical Times, New York.

November.

- 175 The Special Qualifications of a Physician as a Life Insurance Examiner. J. T. Pratt.
- 176 Personal Identity. G. R. Johnson.
- 177 Pregnancy, Abortion and Infanticide as Related to Medical Jurisprudence. M. E. Fitch.
- 178 Narcolepsy. Q. W. Hunter.
- 179 Linguae Pyramidalis Malaria. Lucian Lofton.
- 180 Cerebral Syphilis. George P. Sprague.

35. Medical Instruction in the United States.—Munch compares the requirements for admission to our medical colleges and other details with those prevailing in Europe. He states that only one of the 154 medical schools in this country regards the clinic as of sufficient importance to impose a hospital course on the students. This same school is the only one in which the requirements for admission are approximately equivalent to the requirements of a French medical school. It is also the only one in which the number of students is kept down, and it thus answers the purpose of a hotbed for producing professors and scientists. As a rule, he remarks, the practical side of medical instruction here is always sacrificed to the theoretic side. The clinical side is absolutely neglected. He comments on the shortness of the terms, especially when the lack of previous training of the students is considered. Aside from a few schools which are an honor to the country and which may well bear comparison with similar establishments in the old world, there are too many others whose disappearance would add to the success and credit of the country.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 1053.

- 37 (LXXI, No. 1.) Origin of Inflammatory Foci in Bones and Their Relation to Ramifications of Arteries in the Bones. Lexer (von Bergmann's Clinic, Berlin).—Die Entstehung entzündlicher Knochenherde und ihre Beziehung zu den Arterienverzweigungen der Knochen.
- 38 Experiences in Operating on Incarcerated Hernia. Weyprecht (Körte's Clinic, Berlin).—Erfahrungen über die Operation des eingeklemmten Bruches.
- 39 *Successful X-ray Treatment of Sarcoma in Skull.—Krogus (Helsingfors).—Ueber einen mit Röntgenstrahlen erfolgreich behandelten Fall von Schädel Sarkom.
- 40 *Simultaneous Rupture of Biliary Passages. Lewerenz (Stettin).—Ueber die subkutanen Rupturen der Gallenwege traumatischen Ursprungs, nebst einem kasuistischen Beitrag.
- 41 *Zur Kasuistik der akuten Darm-Invaginationen. Barker (London).
- 42 *Antiseptic Dressings for Wounds. Noetzel (Frankfurt a. M.).—Experimentelle Studie zum antiseptischen Wundverband.
- 43 Experimentelle Untersuchungen und Erfahrungen über Leitungsanästhesie (Anesthesia by Conduction). Braun (Leipzig).
- 44 Zur Resektion des Thorax bei veralteten und tuberkulösen Total-Empyem. Klingel (Hamburg).
- 45 *Die Kardiolyse und ihre Indikationen. Brauer (Heldelberg).
- 46 Entstehung der Hygrome. Langemak (Rostock).

39. X-Ray Treatment of Sarcoma in Skull.—The tumor was the second recurrence of a large round-celled sarcoma of the occiput with metastatic nodules in the frontal bone. Under the x-rays all the lesions vanished in the course of two months and the patient has been cured to date, four months since. A hard tube was used, at a distance of 15 to 20 cm., the daily sittings ten minutes each. The hair fell out, but has grown again; no other by-effects were observed.

40. Rupture of Biliary Passages.—A boy between 2 and 3 years old was run over by a wagon and was brought to the clinic three weeks later with slight icterus, ascites and clay stools. Puncture allowed the escape of nearly three quarts of a bile-stained fluid. An operation was undertaken seven weeks later and revealed fibrinous peritonitis with numerous adhesions. The hole in the biliary passages was not discovered, but complete cure followed the establishment of an anastomosis between the gall bladder and duodenum. Lewerenz reviews 60 similar cases that have been published. When the bile escapes into the abdominal cavity in large quantities a fatal termination is inevitable partly on account of absorption of the constituents of the bile and partly from the loss of this important factor in digestion.

41. Acute Invagination.—Barker has operated on 25 cases and has had 7 deaths. He never attempts to correct the invagination by high injections, except in the very earliest stages. The invagination should never be reduced by traction on the invaginated but only by pressure on the peripheral end, squeezing the intussusceptum out of its sheath.

42. Antiseptic Dressings.—Noetzel's experimental research indicates that the secretions of a wound are drawn up into a moist dressing better than into a dry one. Virulent anthrax bacilli placed on an artificial wound in rabbits were absorbed into these dressings and infection of the animals was pre-

vented. Both the moist and the dry proved equally effective in this respect, but the germs were drawn up into the outer layers of the moist gauze while they were found only in the layers closest to the wound in the dry dressings.

45. Indications for Cardiolyse.—By this term Brauer means the freeing of the heart from rigid fixation by chronic mediastino-pericarditis. As persons in this condition are unable to bear a major operation with the necessary narcosis, he recommends removal of the bony wall over the heart, which frees the heart to a great measure. He has thus operated on two patients and the working capacity has been restored in each; the cyanosis, congestion of the liver and ascites have vanished, and the myocarditis has been improved, although not cured. The symptoms of chronic mediastino-pericarditis include congestions, progressive cardiac insufficiency, diastolic heart beat, etc., and the pulse curve is also characteristic, as he explains in detail. The most important of these symptoms, the insufficiency of the heart, is relieved by removal of the rigid chest wall to which the heart becomes more or less fastened by adhesions.

Berliner Klinische Wochenschrift.

Last indexed page 887.

- 47 (No. 35.) *Indications for Premature Delivery in Hyperemesis and Heart Disease. O. Tuszka. —Ueber Indikation der Eileitung der Geburt bei Hyperemese und Cardlopathie.
- 48 *Ueber Cytodiagnostik. B. C. Schwarz and J. Bronstein. (Concluded.)
- 49 (No. 36.) *Oatmeal in Severe Diabetes. C. v. Noorden (Frankfurt).—Ueber Haferkuren bei schwerem Diabetes mellitus.
- 50 Origin and Composition of Alexins. R. Turro (Barcelona).—Ursprung und Beschaffenheit der Alexine.
- 51 Disturbances of Gait in Tetany. S. Kallischer.—Ueber Gangstörungen bei Tetanie.
- 52 Ueber das psychische und somatische Verhalten der Pygopagen Rosa und Josefa ("der böhmischen Schwestern"). R. Henneberg and H. Stelzner (Berlin). (Concluded.)
- 53 (No. 37.) *Fever and Elimination of Sugar. P. F. Richter.—Fieber und Zuckerausscheidung.
- 54 *Zur Pathogenese der Lungen-Tuberkulose. F. Weleminsky (Prague).
- 55 *Zur nasalen Dysmenorrhoe. E. Oplitz (Berlin).
- 56 Toxic Components of Diphtheria Toxin. P. Ehrlich.—Ueber die Giftkomponenten der D-Toxin. (Commenced in No. 35.)
- 57 *Hot Air in Treatment of Ear and Nose Affections. Warnecke (Hanover).—Zur Warmluftbehandlung von Ohr und Nase.
- 58 (No. 38.) *Ueber hysterische Autosuggestion der Kinder (of children). C. A. Ewald.
- 59 *Sensitive Iodine Tests. E. Rogovin.—Ueber die Empfindlichkeit der Iodproben.
- 60 *Action of Bile on Heart and Origin of Slow Pulse in Icterus. K. Brandenburg.—Ueber die Wirkung der Galle auf das Herz und die Entstehung der Pulsverlangsamung beim Icterus.
- 61 *Vegetable Foods and Beverages in Case of Gout and Nephritis. J. W. Hall (Stockholm).—Vegetabilische Nahrung und Getränke bei Gicht und Nephritis.
- 62 *Sanoform as Substitute for Iodoform. G. Ramberg (Berlin).—Sanoform als Ersatzmittel des Iodoforms.
- 63 Importance of Hypnosis as a Therapeutic Measure. H. Dellus.—Die Hypnose in ihrer Bedeutung als Heilmittel. (Concluded.)

47. Indications for Premature Delivery in Heart Disease and Hyperemesis.—Tuszka points out that many cases of the latter are due to hysteria, auto-intoxication, etc., and that interruption of the pregnancy would not remove the cause. He attributes essential hyperemesis to irritation of the perimetrium, and believes in terminating the pregnancy as a last resort after failure of all other measures, including opium, and progressing inanition is becoming a serious menace. Premature delivery is seldom necessary in case of a cardiac defect. The only indications for it are the early appearance of signs of disturbance of the compensation, especially irregularities in the pulse indicating increasing dilatation of the heart. He calls special attention from this standpoint to the lack of the normal difference between the pulse of the reclining and erect subject, and the exaggeration of this difference later as the pregnancy advances. He regards this as a valuable sign of incipient failure of compensation.

48. Cytodiagnosis.—Schwarz and Bronstein report trials of this diagnostic measure which have failed to demonstrate that it has much, if any, utility.

49. Importance of Oatmeal in Diabetes.—The oatmeal course of treatment outlined by von Noorden consists in daily ingestion of 250 gm. of oatmeal or rolled oats thoroughly cooked with 300 gm. of butter and 100 gm. albumin. The

last-mentioned may be in the form of a vegetable albumin cooked with the oatmeal, or the white of an egg may be added after it is partially cooled. The porridge thus made is taken at two-hour intervals. His experience with a hundred cases shows it is possible on this diet to partially or completely banish the sugar from the urine and likewise the acetone bodies. It is contraindicated in mild cases without diaceturia, as the oatmeal is not tolerated by such subjects. No theory has yet been advanced to explain the facts observed in regard to the benefits from a change to oatmeal in severe cases except that it may possibly be due to a difference in the kind of starch. They confirm the necessity for individualizing treatment in diabetes. He has been testing this oatmeal diet for more than a year and gives in tabulated form 5 typical cases illustrating the effects as observed in various groups. He allows at the same time a little brandy or wine and a little strong black coffee. The oatmeal he uses is Knorr's *Hafermehl* or the Hohentlohe *Haferflocken*. The first case is that of a young man, 18 years old, who had presented symptoms of diabetes for six months. Notwithstanding strict adherence to the usual antidiabetic diet he averaged from 20 to 96 gm. of sugar a day, with 1.5 to 2 gm. acetone and 1.5 to 3 gm. ammonia. These proportions were progressively increasing and a change was made to the oatmeal diet. The acetone vanished by the third day and the sugar dropped from 50.9 gm. to zero in a week. Von Noorden has had 10 cases of this type. After two months of the oatmeal diet, varied occasionally with a little bacon, eggs or vegetables, he was dismissed, with orders to keep to a modified form of this diet: For breakfast, tea or coffee, with cream, and 2 eggs; for early lunch, 20 gm. of oatmeal cooked with 30 gm. butter, 50 gm. bacon and 2 yolks of eggs. For the midday meal, 120 gm. meat, abundance of green vegetables and a salad, 50 gm. potato, 25 gm. cheese and coffee with cream. For the fourth meal, tea with cream and 2 yolks, and for supper, 80 gm. meat, green vegetables in abundance with an oil salad, 50 gm. potato, 25 gm. cheese, and butter. Every day a Rademann *Luftbrod* (aërated bread made from gluten free from carbohydrates) and 100 gm. of a "desugared fruit preserve," *entzuckertes Obst*. Every fifth day a "vegetable day" is interposed. Three-fourths of a bottle of light wine is also allowed daily. On this diet the patient's urine has been completely free from sugar since last April. Case 2 was a patient with diabetes for ten years, and the oatmeal diet restored the balance of toleration which had been lost for a time, as shown by increasing weakness, etc. It reduced the sugar from 131.8 to about 30 gm. and also reduced the acetone. In three weeks the patient was restored to his regular balance of toleration and has been in comparatively good health since. In a third group, the interposition of the oatmeal diet evidently warded off impending coma. In the typical case described the sugar was completely banished after it had reached 110.7 gm. a day, and the patient gained in weight on the oatmeal. In the fourth group of cases the oatmeal aggravated the condition. In the typical case tabulated the patient was a man of 27 who had shown signs of diabetes for more than two years, the first symptoms noted after a fall on the back of the head. When he entered the clinic the sugar ranged from 75 to 123 gm. and the oatmeal diet proved less effectual in reducing the sugar than the ordinary diabetic diet, and the acetone increased. In the fifth group the typical case was that of a man of 33 with 57.7 to 98.8 gm. sugar. On a strict diabetic diet the sugar had been banished from the urine, but it returned in nearly as large proportions as at first when an oatmeal diet was instituted. The effect on the sugar in the urine is never so pronounced with Winternitz's milk and Mosse's potato diet as is obtained in appropriate cases with the oatmeal.

53. Fever and Glycosuria.—Richter induced glycosuria in animals with adrenalin and then raised the temperature by irritation of the corpus striatum, without modifying the glycosuria. The elimination of sugar induced by the adrenalin was not affected by the subsequent high temperature. On the other hand, there was no glycosuria when fever was induced by injection of streptococci with subsequent administration

of adrenalin. He assumes that the bacteria use up the sugar in the blood. This would explain the increased tolerance to sugar in alimentary glycosuria and diabetes during febrile affections.

54. Pathogenesis of Pulmonary Tuberculosis.—Weleminsky infected a number of animals with tuberculosis by way of the alimentary canal. He found that a number subsequently developed pulmonary tuberculosis, showing that the infection must have reached the lungs by way of the submaxillary and bronchial glands into the blood and thence to the lungs. The germs settle in the lungs, as they meet less resistance here.

55. Nasal Relation of Dysmenorrhea.—Opitz accepts the possibility that the uterus may be influenced by way of the nose. This assumption is sustained by the close connection between the sense of smell in animals and the sexual activity, which in the female probably leads to contractions of the uterus from stimulation of the olfactory nerves. Something similar possibly occurs likewise in human females. As dysmenorrhea in many cases is due to abnormally vigorous or abnormally perceived contractions of the uterus, it may be considered in many cases a reflex neurosis, and as such may be amenable to treatment through the genital points in the nose. His clinical experience sustains this assumption. It certainly affords the practitioner another weapon for combating dysmenorrhea.

57. Hot-Air Treatment of Ear and Nose Affections.—Warnecke uses an apparatus of his own devising, which is described and illustrated in this communication. He has found the hot air extremely useful after operations, also for empyema of the antrum of Highmore and in chronic otitis media.

58. Hysteric Autosuggestion in Children.—Ewald describes 3 cases in boys from 7 to 9 years old in which the hysteria was not pronounced. Removal to another environment or a sham operation cured the condition. The autosuggestion involved the abdominal organs in each instance and simulated a foreign body and appendicitis. The third child vomited and regurgitated constantly.

59. Comparative Sensitiveness of the Iodin Tests.—Rogovin has been testing the various reactions that have been published. He found that it was possible to detect the iodine in the urine even after ingestion of as small an amount as .005 gm. of potassium iodid. The Harnack reactions proved much more sensitive than any others. The Sandland test is also reliable, but Jolles' and the others failed when the proportions were small. He gives the technic of the various tests in detail.

60. Action of Bile on the Heart.—Brandenburg found that even a very small amount of bile injected into the circulation of frogs and dogs had an irritating effect on the sensory innervation of the heart and induced reflex irritation of the vagus with transient enfeeblement of the contractions of the auricles and slowing of the heart beat. This occurred in the experiments on animals much sooner than in icterus in man. Reflex irritation of the vagus seems to be an important factor in the development of the disturbances in the circulation observed in icterus. Its effect is supplemented by injury of the cells of the myocardium at the mouths of the large heart veins.

61. Vegetable Foods and Drinks in Respect to Gout and Nephritis.—Hall calls attention to the large proportion of the purin nitrogen which is contained in oatmeal, beans, peas, asparagus and onions, also in beer and ale. These articles of diet and these beverages should, therefore, be prohibited or restricted in gout and nephritis.

62. Sanoform as Substitute for Iodoform.—Bamberg has used sanoform in 225 cases, mostly gynecologic, and has been much pleased with this odorless combination of iodine and salicylic acid. It does not seem to have any direct bactericidal power and its therapeutic action is due to the liberation of the iodine and salicylic acid. He is now using it exclusively in the place of iodoform.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed page 1237.

64 (LXXVII, Nos. 3-4.) *Ueber Leukanämie. H. Luce (Hamburg).

- 65 *Das Westphalsche Phänomen bei kruppöser Pneumonie im Kindesalter. H. Roeder.
- 66 *The Muscular Disturbances in Thomsen's Disease. P. Jensen.—Zur Analyse der Muskelstörung bei der T. Krankheit.
- 67 Zur Klinik und Pathologie der Biermerschen progressive Anämie. E. Bloch.
- 68 *Antiperistalsis in Stomach. E. Rautenberg.—Ueber antiperistaltische Bewegungen. Im Magen.
- 69 *Behavior of Eosinophiles in Various Diseases. P. Reckzeh.—Das Verhalten der weissen Blutkörperchen, besonders der eosinophilen Zellen, bei einigen Erkrankungen der Haut, des Blutes und bei Infektionskrankheiten.
- 70 *Blood Pressure During Exercise in Health and in Heart Disease. O. Moritz (St. Petersburg).—Der Blutdruck bei Körperarbeit gesunder und herzkranker Individuen.
- 71 *New Theory of Circulation and Suggestions for Treatment Based Thereon. K. Hasebroek (Hamburg).—Versuch einer Theorie der gymnastischen Therapie der Zirkulationsstörungen auf Grund einer neuen Darstellung des Kreislaufs.

64. Leukanemia.—Luce applies this name to the rare blood affections characterized by the combination of the blood findings of pernicious anemia with those of lymphatic leukemia. In a case recently observed a woman, 40 years old, presented an acute angina followed by the gradual development of a hemorrhagic diathesis with hemorrhages into the retina, morbid heart sounds, and enlargement of the glands in the neck, the liver and spleen, proceeding to a fatal termination in six months. He regards the case as merely one form of the morphologic manifestations with which the blood-forming apparatus responds to a series of injurious influences. It is introduced by some lymphadenoid or myeloid metaplasia of the bone marrow of unknown etiology. The pernicious anemia is, therefore, myelogenic and not hematogenic in this leukanemia.

65. Westphal's Sign in Croupous Pneumonia in Children.—Roeder denies that the knee-jerk has any significance for either diagnosis or prognosis in croupous pneumonia.

66. The Muscle Troubles in Thomsen's Disease.—Jensen states that comparison of the muscle curve obtained with the Mosso ergograph in health and in myotonia congenita shows that the primary contraction occurs much more slowly in the latter. Instead of the normal 2 seconds, 8 are required for the contraction of the myoclonic muscle. He is inclined to attribute this and the other peculiarities observed to some anomaly in the muscle itself, possibly in the terminal ramifications of the motor nerves in the muscle. It is probably some nutritional disturbance in the assimilation of the contractile muscle fibers or sarcoplasm and defective disassimilation. He found in his experience with a case of this disease carefully studied that thyroid tablets and injection of orchitic extract induced a temporary improvement. He also imagined that benefit was derived from inhalation of oxygen, which he gave on account of its efficacy in promoting metabolic processes in general. The results observed justify further trials of oxygen.

68. Antiperistalsis in Stomach.—In 2 cases of gastric tumors Rautenberg noticed marked antiperistaltic movements in the stomach.

69. Eosinophiles in Various Diseases.—Reckzeh's investigations of 70 subjects showed that in scarlet fever the eosinophiles range from 0 to 23 per cent. of the white corpuscles; in measles from 0 to 5 per cent. None were to be found in erysipelas. In diphtheria the number corresponded to the normal figure. In leukemia there was a moderate increase; in pernicious anemia they were absent. In mercurial dermatitis the eosinophilia commenced at the point of irritation, but became general later.

70. Blood Pressure During Exercise.—Moritz remarks that a very slight increase in blood pressure during hard exercise indicates some severe functional heart trouble. In case of slight valvular defect the blood pressure may behave normally during exercise, but with serious valvular defect it varies as in case of myodegeneration, that is, the blood pressure is increased during the exercise, but never reaches the normal height, and is liable to drop even during the muscular exertion; afterward it returns to normal much more slowly than in health. The amount of disturbance in the circulation and the condition of the heart muscle are of greater importance from this point of view than the kind of the valvular affection. In health the Riva-Rocci apparatus shows that the

blood pressure does not rise during mild exercise, but during vigorous muscular exertion it rises with the exercise, remains at a regular height and subsides to normal at the close. The more will power and exertion required for the exercise and to maintain it in spite of augmenting fatigue, the higher the blood pressure. In case of heart disease the blood pressure may fall below normal after the conclusion of the exercise, showing the fatigue of the heart. These statements are the results of tests according to Dehio's method on 6 healthy subjects, and on 23 with heart disease.

71. Treatment on New Basis of Circulatory Disturbances.—The favorable action observed under certain circumstances from therapeutic gymnastics in cardiac and valvular affections, is explained by Hasebroek on the basis of a new theory which he tentatively proclaims. The theory of the circulation as the result of the difference of pressure between the arteries and veins induced by the constantly recurring action of the heart, does not explain all the phenomena observed. He thinks that we can assume a further propulsive energy at the periphery independent of that in the heart. The periphery represents another, second, independent pumping apparatus, coupled with that of the heart. The periphery has not only its elastic contraction and expansion, but also its active diastole and systole in the arteries. This diastolic-systolic activity is manifested in the capillaries as a sucking in, an inspiration, while in the arteries it is more of a propulsive energy. Both these forces combine to compel an independent and vigorous flowing through of the blood stream into the veins. The latter are passive, serving as a passive reservoir for the blood stream, and thus the venous system is able to adapt itself at all times to the varying activity of the organs at either end. This peripheral diastolic-systolic, independent, propulsive apparatus may become impaired and entail various disturbances in the circulation. The heart by redoubling its efforts may compensate for a time the lessened activity of the peripheral apparatus, or the latter may compensate for deficient heart action. The beneficial effects of therapeutic gymnastics are restricted to those cases of circulatory disturbances in which the heart is still sound and the trouble is due only to some disorder in the peripheral pumping apparatus. If the heart muscle is already affected, benefit can be attained only when it is possible to stimulate the vitality of the peripheral tissue and by functional exercise of its vessels to exert a favorable influence on this independent peripheral circulation. When both heart and periphery are affected, no benefit can be derived from such exercises. The assumption that exercise strengthens the heart muscle is a mistaken one. The vitality of the heart is increased by sparing it unnecessary exertion, and by inducing compensation on the part of the independent propulsive force at the periphery. Therapeutic exercises are an important prophylactic measure in the early stages of chronic disturbances in the circulation and in well-compensated valvular defects. They prevent or retard the progress or inception of the vicious circle in the circulation, that is, the chain of sluggish current, increased resistance and diminished volume of blood sent forth at each beat, entailing a still more sluggish current, etc.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

- 72 (XXIX. No. 44.) *Fatty Degeneration. H. Ribbert (Göttingen).—Zur Morphologie und Chemie der fettigen Degeneration.
- 73 Ueber Herz-Bigeminie und Hemisystole. F. Riegel (Glessen).
- 74 *Fragmentation of Feces. P. Grützner (Tübingen).—Ueber die Zerkleinerung menschlicher Fäces.
- 75 Ueber die Exochloentia Prostatæ. Riedel (Jena).
- 76 Idiopathischer Priapismus. 9 Tage persistierend. Mainzer.
- 77 *Rapid Hardening and Embedding. A. Stein (Heidelberg).—Ueber Schnelthärtung und Schnelleinbettung.
- 78 By-effects of Mesotan. B. Aronsohn.—Unangenehme Nebenwirkungen des Mesotan.
- 79 *Zur Behandlung der Obstipation im Säuglingsalter (In infants). Clamann.
- 80 The Defects in the Darwinian Theory. A. Fleischmann (Erlangen).—Die Fehler der Darwin'schen Theorie.
- 81 Life Insurance Formulas. O. Schellong (Königsberg).—Die Formeln der Lebensversicherungsgesellschaften.

72. Fatty Degeneration.—Ribbert argues to prove that fatty degeneration is essentially in all cases an infiltration of fat into previously injured cells. Fat enters into normal cells

and accumulates as deposits of fat, forming the adipose tissue. When it enters into pathologic cells we have fatty degeneration. The two processes may thus be regarded as a physiologic and a pathologic fatty infiltration.

74. Fragmentation of Feces.—Grützner has found that feces may be readily broken up if alcohol is poured over them. He uses an ordinary egg beater, the kind made with the wire wound in a spiral cone, the handle fastened to the tip of the cone.

75. Intracapsular Resection of the Prostate.—Riedel relates the details of 5 cases treated by excochleatio prostatae. One patient had been using the catheter for two years. He was able to urinate spontaneously the evening after the intervention. As his bladder was sound and the urine had not putrefied, the benefit derived has been permanent. In another case the prostate was located at an unusual height and the bladder presented a diverticulum so large that it might be considered a supernumerary bladder. This anomaly was not discovered at the first operation, when the prostate was shelled out, and the patient did not survive the second operation, the obliteration of the diverticulum. He was a man of 61, a consumptive with contracted kidney, and his urinary disturbances were of three years' standing. The removal of the prostate restored spontaneous urination for several months, until the bladder became insufficient. The 2 other cases were successful, although the urethra was injured in each. Riedel's experience demonstrates that the operation should be undertaken while the bladder is still sound. When it is insufficient, the residual urine will collect and putrefy, and the patient's condition be actually aggravated, as before the intervention the residual urine had been evacuated with the catheter, which after the operation is discarded. He would be inclined to recommend the operation to younger men, even if he found it necessary to repeat it later on account of renewed growth of the prostate. He works through an incision curving from one tuber ischii to the other, a short distance in front of the anus, with a longitudinal incision to the scrotum.

77. Rapid Hardening and Embedding.—In brief, the modification of the Lubarsch method described consists in 5 minutes in 10 per cent. formalin; 5 minutes in 95 per cent. alcohol; 10 minutes in absolute alcohol changed once; 15 to 20 minutes in anilin oil until entirely transparent. During these maneuvers the specimen is kept in the incubator at 50 to 52 C. The temperature of the incubator is then increased to 58 or 60 C., and the specimen is placed in xylol for about 15 minutes, changing the fluid two or three times, and lastly in paraffin for 10 to 30 minutes. The entire procedure is complete in 75 to 90 minutes. It is applicable only to sections not more than 3 mm. thick. Specimens thus prepared eighteen months ago are still in perfect preservation. Gutmann and Stein both commend this method as preferable to all others for rapid, exact diagnosis from curettings, etc.

79. Mechanical Treatment of Infants' Obstipation.—Clamann introduces an oiled, medium-sized, Nelaton catheter into the rectum as the infant lies on his back. He works it in for 15 cm. or more and twists it gently to induce reflex expulsive action on the part of the intestines. This "oil catheter" has never failed him in several years' experience with it.

Münchener Med. Wochenschrift, Munich.

- 82 (L. No. 43.) Granular Synthesis of Fat in Migrating and Pus Cells. J. Arnold (Heldelberg).—Ueber granuläre Fettsynthese in Wanderzellen und Eiterzellen.
- 83 *Hitherto Unknown Effect of Roentgen Rays on the Animal Organism. Albers-Schönberg.—Ueber eine bisher unbekannte Wirkung der Röntgenstrahlen auf den Organismus der Tiere.
- 84 Essence and Etiology of Contracted Kidney and Successful Treatment. P. Edel (v. Leube's clinic, Würzburg).—Ueber Wesen und Aetiologie der Schrumpfnieren und ihre erfolgreiche Behandlung.
- 85 *First Case of Successful Ligation of Hepatic Artery on Account of Aneurism. H. Kehr (Halberstadt).—Der erste Fall von erfolgreicher Unterbindung der Art. hepatica propria wegen Aneurysma.
- 86 *Tuberculin in Diagnosis. T. Grünwald (Tübingen).—Ueber die Anwendung des alten Koch'schen Tuberkulins zur Erkennung der Lungentuberkulose.
- 87 Value of Tuberculin Diagnostics for Sanatoria. M. Pickert (Beoltz).—Ueber den Wert der Tub.-Diagnostik für die Lungenheilstätten.

- 88 Ueber Tuberkulin- und Heilstätten-Behandlung Lungenkranker. W. Freymuth (Breslau).
- 89 *Die Streptokokken-Serum-Behandlung der Tuberkulose-Mischinfektion. Menzer (Senator's clinic, Berlin).
- 90 Ship Sanatoria. G. Baer.—Beitrag zur Heilstättenfrage.
- 91 Ueber T. Wertheimer (Nuremberg).
- 92 Zur ... O. Kiesel (Halle).

83. Sterility and X-Rays.—Albers-Schönberg reports experiments on animals showing that x-ray produces in them a marked inability to reproduce, whether transient or permanent is yet to be determined, and this without any decided interference with the general state of health. The consequences of the rays, sterility, is by the killing of the spermatozoa, which soon reaches the point of complete azoospermia. He experimented effectively on 5 rabbits and 6 guinea-pigs with from 377 to 518 minutes of x-ray application in different cases. Exposure of 195 minutes did not produce a complete effect.

85. Aneurism of the Hepatic Artery.—In the case reported by Kehr there was an aneurism of the right branch of the hepatic artery which necrosed and connected with the cystic duct. The artery was tied with double ligatures and severed between them immediately below the bifurcation, and the aneurism, the size of a goose egg, was exposed and cleared out. Tamponade was applied without drainage. The stomach was found to be sound and no other lesions were discovered. The patient made a good recovery. A careful watch was kept during the first forty-eight hours for signs of liver necrosis but it did not appear. He remarks in regard to such cases that symptoms of gastric or intestinal bleeding with colic and icterus together, should lead to a suspicion of the possibility of aneurism of the hepatic artery.

86. Tuberculin Diagnosis.—Grünwald believes that the diagnostic use of tuberculin is without danger, and gives the results of his own experiments. He used the old tuberculin of Koch, and employed about 1 mg. in the beginning, later increasing to larger doses in some cases where reaction was not prompt. The injections were made between the shoulder blades. In the 117 cases, 89, that is, 76 per cent. gave a positive reaction; 28, or 23.9 per cent., a dubious or negative reaction. In 103 cases presenting pronounced or suspicious symptoms of pulmonary tuberculosis, 88, that is, 85.4 per cent., gave a positive reaction; 7, or 6.8 per cent. dubious, and 8, or 7.8 per cent. negative. Out of 8 patients with bronchitis associated with chronic pneumonia and bronchiectasis, 2 reacted positively and 6 negatively. In 6 pleuritic cases, 2 gave a positive reaction and 4 a negative. The occurrence of these negative reactions in patients who exhibit decidedly marked symptoms of tuberculosis is remarked on, and it is admitted that there is much yet to be studied in regard to the working of tuberculin in this regard, though its value is not questioned.

89. Streptococcus Serum Treatment of Mixed Tuberculosis Infection.—Menzer has used antistreptococcus serum in 11 cases of Turban's first stage of tuberculosis. Of these, 8 recovered with an average increase of weight of 12 pounds in 3.2 months; 3 were perceptibly improved with an average increase in weight of 5 pounds in 1.4 months. In 3 cases in the second stage, 1 recovered with 10 pounds increase of weight in 3 months. One was perceptibly improved in the same time with a still greater increase of weight and one also improved in less than 2 months with a slight increase. Five cases in the third stage were perceptibly improved, and 3 were not. Recovery, as here understood, is a disappearance of all catarrhal phenomena, with still slight apical dullness and alteration of the respiratory sounds. The maximum of serum injected was about 5 c.c. in the first stage; the injections were made ordinarily in the upper thigh. He began with .5 c.c. and gradually increased the dose up to the above limit.

Therapeutische Monatshefte, Berlin.

Last indexed page 1308.

- 93 (XVI. No. 8.) *Choice of Method for Treating Retroflexion with Special Regard to the Subjective Disturbances. Winterritz.—Die Wahl der Behandlungsmethoden bei Retroflexio uteri unter bes. Berücksichtigung der subjektiven Beschwerden.

- 94 *Albumin Diet. P. Bermbach.—Natürliches Eiweiß und Eiweißpräparate in der Krankenernährung: Eiweißdiät.
 95 *Treatment of Fatigue Insufficiency of the Brain. L. Fürst.—Ueber Ernährungs- und Funktionsinsuffizienz des Gehirns.
 96 Fall von hysterischer Blindheit durch hypnotische Suggestion dauernd geheilt. A. Czernitzky.
 97 Saline Baths at Inowrazlaw. Bergel.—Das Solbad I.
 98 Zur therapeutischen Wirkung der Bier-Hefe (yeast). Gollner.

93. Treatment of Retroflexion.—Winternitz thinks that movable retroflexion without complications in nulliparae does not cause any special nervous disturbances, and consequently does not call for treatment. If nervous disturbances are noted in child-bearing women, such as are especially liable after forceps deliveries, and also in case of complicating displacements of the vagina, a round ring pessary remedies the conditions better than any other. The symptoms will be improved to such an extent as to demonstrate in the latter case that the trouble was due to the sliding down of the vaginal walls rather than to the retroflexion.

94. Albumin Diet.—Bermbach is an earnest advocate of an abundant supply of albumin in all cases of myodegeneration of the heart, severe anemia, hysteria and stomach affections. He discusses various modes of providing the albumin, and expresses his preference for tropon or eucasin, two tablespoonfuls a day.

95. Lecithin in Brain Fag.—Fürst has witnessed most remarkable success from the administration of two lecithin pills three times a day in cases in which the brain was fatigued or exhausted from any cause. He thinks that we have in lecithin a most valuable agent for toning up the brain when suffering from overuse. It supplies the phosphorus in an active, organic form, and the entire metabolism soon shows the benefit derived. In six to eight weeks the brain becomes much clearer and more active. The favorable results of ingestion of eggs, milk, brain substance, spermin and cerebrin, are undoubtedly due to the large proportion of lecithin they contain.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.
Last indexed XL, page 178.

- 99 (XLVIII, No. 2.) *Structure and Histogenesis of Placenta Tumors. A. Dienst (Breslau).—Ueber den Bau und Histogenese der Placentargeschwülste.
 100 *Inoculation Metastases and Tardy Recurrence After Carcinoma Operations. R. Olshausen (Berlin).—Ueber Impfmetastasen und Spätrezidive nach Karzinomoperationen.
 101 *Study of Glands in 7 Cases of Uterine Carcinoma. F. Oehlecker (Berlin).—Drüsenuntersuchungen, etc.
 102 Justification of Perforation of Living Child. M. Hofmeier (Würzburg).—Ueber die Berechtigung der Perforation des lebenden Kindes.
 103 *Opposition to Drainage. R. Olshausen.—Wider die Drainage.
 104 Spontaneous Vesico-Vaginal Fistula. G. Schmauch (Chicago).—Spontane Blasenscheldenfistel nach Total-Exstirpation des Uterus wegen Carcinom. Blasenblutungen und das Ulcus simplex vesicæ perforans.
 105 Study of Mechanism of Birth. M. Henkel (Berlin).—Beitrag zur Lehre vom Geburtsmechanismus.
 106 (No. 3.) Ueber Tumoren des Ligamentum rotundum uteri. R. Emanuel.
 107 True and Simulated Tubal Pregnancy. C. Schambacher.—Ueber wahre und vorgetäuschte Tubarschwangerschaft.
 108 Plastic Closure of Vesico-vaginal Fistula. O. Küstner.—Die plastische Verwendung der Portio supravaginalis zum Verschluss von Blasenscheldenfisteln.
 109 *Zur klinischen Behandlung der entzündlichen Adnexerkrankungen (adnexitis). O. Nebesky.
 110 Zur histologischen Diagnose des Abortes. E. Oplitz.

99. Tumors of Placenta.—Dienst does not consider 3 of the 46 cases of tumors of the placenta on record as quite above criticism. He describes 2 personally observed, which brings the number of reliable cases to 45. All on record to date may be called choriomata, but there is both an angiomatous and fibrous variety. He attributes the origin to some congestion in the maternal organism.

100. Inoculation Metastases.—Olshausen has encountered 6 cases of metastases in the abdominal wall consecutive to ablation of a malignant tumor. They are always located on one side of the cicatrix. One proved to be an inoperable carcinoma, occurring two years after removal of a carcinomatous ovarian tumor; another developed likewise two years after bilateral ovariectomy, and another five years, and a fourth seven and one-half years afterward. In the other cases the carcinoma in the abdominal wall developed seventeen and twenty-one years after ovariectomy or extirpation of an ovarian tumor. He further reports 3 cases of tardy recurrence. In one a

sarcoma recurred in the ovary four and a half years after ovariectomy. In another a carcinoma developed in the other ovary and uterus seven years after ovariectomy, and in the third, there was metastasis of a carcinoma twelve years after ablation of the primary growth. All these tumors developed in the vicinity of the cicatrix, and hence are undoubtedly due to inoculation during the operation, although the long latency of the particles of the carcinoma is very remarkable.

101. Study of Glands in Case of Uterine Carcinoma.—Oehlecker found microscopic metastases in some of the pelvic, lumbar or retroperitoneal glands in 2 out of 7 cases thus examined. No macroscopic evidences of cancerous degeneration were perceptible. He advocates removal of all the regional glands, irrespective of their size or consistency.

103. Opposition to Drainage.—Olshausen does not believe in drainage after gynecologic operations except those for paratyphilitic abscesses or suppuration in the broad ligaments or on the floor of the cul-de-sac. He drained in only 9 of his last 1,555 laparotomies. This series includes 113 cases of very extensive interventions in which subsequent sepsis would have been of the most serious import, and yet all progressed favorably without drainage. He regards it as more of a danger than a benefit, except for the conditions enumerated above.

109. Clinical Treatment of Adnexitis.—Amann is restricting more and more operative treatment of inflammatory processes in the adnexa in favor of expectant, conservative measures. He finds that persevering conservative treatment will in time restore the working capacity in nearly every case, mild or severe. The objective findings and complications are very rarely indications for operative treatment, but subjective troubles occasionally justify it after the failure of months of conservative treatment. Nebesky reviews 360 cases. The principles of conservative treatment are repose, good food and avoidance of possible sources of injury, supplemented by hydrotherapy and balneotherapy. Three to six months are generally necessary for a complete cure. A suspicion of the tuberculous nature of the process, however, always imposes speedy operation.

Riforma Medica, Palermo.

- 111 (XIX, No. 41.) La paraganglina Vassale nelle atonie gastroenteriche. G. Manicardi (Modena).
 112 Caso di carcinoma primario del pancreas con riproduzioni multiple ed embolismo cerebrale, seguito da necropsia. G. Radice.
 113 *Cura della rottura dell' uretra. F. Sorrentino.
 114 (No. 42.) Behavior of Yellow Fever Bacillus in Peritoneum in Experimental Infection. G. Q. Ruata (Sanarelli's service. Bologna).—Il bacillo della febbre gialla nel peritoneo durante l'infezione sperimentale.
 115 *Treatment of Varices by Circular Incision of Leg. U. Dall'Acqua.—Sulla cura delle varici e delle ulcere da varici mediante incisioni circolari della gamba.
 116 *Sull' infezione mista: tifosa e diplococcica. C. Quadroni and E. Cler (Turin). (Commenced in No. 41.)

113. Rupture of Urethra.—In the 2 cases described, Sorrentino incised the perineum and inserted an elastic catheter backward into the bladder, then bending it he was able to introduce the other end of the catheter into the peripheral stump of the ruptured urethra, the tip emerging from the external meatus. He then sutured the urethra and the wound in tiers, using catgut. The wounds healed by primary intention, and there has been no trace of disturbance since. He was careful not to include the mucosa of the urethra in the suture, and drained with a narrow strip of gauze for forty-eight hours, leaving the elastic catheter in the urethra for eight to ten days, changing it only once during this time.

115. Circular Incision of Leg for Varicose Ulcers.—Dall'Acqua aims to show by clinical experience, experimental research and theoretical reasoning that the results of this method of treating varices are far from good. The only benefits he derived were the temporary cessation of the pain and the rapid healing of the wound. The advantages claimed for it by its author, Moreschi, are not realized in practice, and recurrence is frequent afterward.

116. Mixed Typhoid and Diplococcus Infection.—In the 2 cases reported the Vidal test was extremely marked.

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Address.

THE PROGRESS OF AMERICAN MEDICINE AND ITS RELATION TO PUBLIC AFFAIRS.*

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A brief allusion to history and to current medical literature is not without interest and instruction in the progress of medicine and surgery and their relation to public opinion and to the public service. In the determination of some such questions and matters we are forced to deal largely with the body politic. What the profession has done everywhere for the public good, and what it has accomplished even in our own country, may be in itself a sufficient answer to the political motives and aspersions, and the debauchery of science, in the name of humanity and personal rights, with which it has to contend and over which it ever has and will continue to triumph. In the cause of scientific truth and progress it is our duty to protect the people against their own ignorance and folly in matters of public health, as it is the duty of the state to make and enforce laws by appropriate legislation for the public weal. From the initiative of Mondini in human dissection in the fourteenth century to the more perfect establishment of it by the immortal Vesalius in the sixteenth, dates the beginning of the scientific study of medicine. This was the necessary fundamental step from that long period of priestcraft, sorcery and astrology, with here and there a spark of truth and light; the glowworm of the brighter day from the darker past. From that day to this, resplendent with new truths and benefits to humanity, the medical profession has contended with selfishness, ignorance and superstition in the discovery of new truths and in the enactment of every measure and law for the benefit of mankind, including every effort and measure for its own improvement, that it might the better meet the demands of humanity and a progressive civilization.

Jenner's discovery, and its application to the prevention of smallpox, has rendered the civilized world immune to its greatest plague, yet there are still anti-vaccination societies. Vivisection, generally painless, without which many of the most important truths of physiology would not be known or demonstrated, is still under the ban of much ignorance and prejudice. If these necessary acts were guided by liberal and beneficent

* President's address at the twenty-third annual session of the Colorado State Medical Society, Denver, October, 1903. The introductory parts of the address relating to matters of local interest and the paragraphs concerning vital statistics, the examination of sight and hearing of school children, the appointment of a physician on the Inter-oceanic Canal Commission, the Tuberculosis Congress at Washington in 1903, and the organization of the National Auxiliary Committee on Medical Legislation are omitted in publication.

laws, public illusions would more rapidly disappear, and "body-snatching" would only be a tradition.

One hundred years ago a distinguished English writer asked, "What does the world yet owe to an American physician or surgeon?" This is a partial answer: The first volume of medical transactions published in this country was in 1788. The first medical journal published was in 1820, and the use of American text-books was of a more recent date. Twitchell, New Hampshire, in 1805, was the first to ligate the common carotid and under most adverse conditions; Gibson, Maryland, the first to tie the common iliac; Valentine Mott the first to do it successfully (1827); Mott the first to tie the innominate, in 1818; amputated hip joint in 1824, and the first to amputate the entire clavicle, which was done in 1828, without anesthesia, of course, in four hours' time. Physick invented the tonsillotome, and was the first to apply rest in hip disease and in opposition to prevalent teaching. He was the inventor of absorbable ligatures and was a great lithotomist. In 1827, it is reported that he operated for stone on the venerable Chief Justice Marshall, who returned to his Virginia home on horseback in five weeks from date of operation.

Post and Rogers, New York, first ligated the subclavian in 1846. Deiderick, Tennessee, was the first to amputate the inferior maxilla, in 1810, and Jameson, Baltimore, the first to excise the superior maxilla, in 1820. Warren, Boston, was the first to extirpate the parotid, in 1804; Swift, Pennsylvania, the first to use extension in fractures; Harris, 1830, the first to excise the tongue; Knight, Connecticut, 1848, the first to use digital compression in the cure of aneurism; Walcott, Milwaukee, the first to perform nephrectomy, and Boggs, Indiana, cholecystotomy, while the original work of Christian Fenger will not be forgotten. The world pays its tribute to McDowell, the first ovariologist, 1809. Joseph Pancoast was the first to operate for exstrophy of the bladder; Frank Hamilton the first to suggest skin-grafting, 1847; Bowditch, the author of thoracentesis, in 1850, and Warren of paracentesis. Professor Crosby of Dartmouth Medical College, 1838, was the first to amputate both clavicle and scapula, the inter-scapulothoracic amputation. Carnochan, 1858, was the first to resect the superior maxillary beyond Meckel's ganglion for neuralgia, and the recent Hartley-Krause operation on the gasserian ganglion is well known. Detmold was the first to trephine for brain abscess, in 1849. The great debt the modern world owes to the original work of Sims in gynecology needs only to be mentioned.

In intestinal surgery, the best methods of anastomosis, the Murphy button and the Connell suture being

representatives of the class, and the more recent progressive work is chiefly by American surgeons; while we are the pioneers in appendiceal knowledge and operative work. Fitz wrote the first valuable paper on perforation of the appendix late in 1886, while the preliminary work of Barker and Sands fills an important place, and to an American surgeon belongs the honor of being the first to open the abdomen and remove the appendix, Jan. 4, 1885.

Morton of Boston was the first to publicly demonstrate ether anesthesia in 1846, but it is conceded that Crawford Long of Georgia first discovered and used it in a surgical operation in 1842.¹

Notwithstanding the large number of public benefactors in the medical ranks, it has been a subject of comment and criticism that no portrait of a physician graces the "Hall of Fame," but we allude with professional pride and appreciation to the fact that of the two statues accorded to each state in Statuary Hall in the national capitol, Georgia recently selected, as one of the two, Crawford Long, the discoverer of anesthesia. This is the first and only state so far to justly pay a fitting tribute to a medical man for his contribution to the cause of humanity; for while vaccination has saved more lives, anesthesia has relieved more pain and suffering than any other discovery.

In American medicine we are not unmindful of the valuable original work of Gerhard, Dickinson, Parrish, Mitchell, Meigs and others, while to Oliver Wendell Holmes belongs the credit of establishing the infectious nature of puerperal fever. Dr. Nott and Dr. Charles Finlay were the first to claim that the mosquito was the bearer of the yellow-fever contagium, but the late lamented surgeon, Walter Reed, aided by Major Gorgas and Lieutenant Carroll of the medical department of the Army, in 1900 established the fact that a certain breed of mosquitoes was the inoculating agent. As a result, two striking facts are manifest in the short space of one year—one in Cuba, the gem of the West Indies, the other in Sierr Leone of West Africa, under English domination, and known, until these discoveries, as "the white man's grave." Now, with the simple application of drainage and petroleum to the stagnant, filth-breeding waters, the home of the plasmodia and mosquito, the two chief cities, Havana and Freetown, have been converted from pest-houses to pleasure resorts. One a menace to English civilization, the other to the health and commercial interests of our own country; now, under American medical investigation and the work of the Marine-Hospital Service, both safely opened to the industrial genius and commerce of the civilized world.

This is a brief and very imperfect summary of important original contributions of America to the progress of medicine and surgery, while the work of to-day excites the interest of the professional world and the pride of our own countrymen. Though the history of the "young republic" is brief, it is important and significant, and I fancy that no one would expose his ignorance by now asking, what has America done for medical knowledge and science?

But what of the future? The elder Gross, the Nestor of American surgery in his day, in his centennial address said: "It is doubtful if America will ever again

produce at the same time four such brilliant surgeons as Physick, Mott, Warren and Dudley." In less than a quarter of a century from that time they were numbered by the scores. Observation, experience and history teach us how idle it is to indulge in prophecy as to the negative attainments of the human intellect. From the operation of laws and forces governing the past and the present, we have a reasonable basis for predicting the future. We know that the truths and acquirements of this generation are the natural endowments of the next. The ultimate fact or final reality beyond our ken is called the unknowable, but in presuming to place an absolute limit on mental capacity is itself an assumption of prescience that does not seem justifiable. "Unknown" is a better term, for it is constantly dispelled in the calcium light of a restless scientific age; though it does reveal the eternal truth that there are still "more things in heaven and earth than are dreamt of in our philosophy."

Many of the best surgeons believe that operative technic has now reached such a degree of perfection that there is little room for further improvement. In a general sense this is true. No modern surgeon now infects his patient, and in many respects it would be difficult to improve on present methods; but so long as we must adapt our procedures to new facts, improvement in technic will continue. For instance, it is only a short time since intestinal perforation occurring in 2 per cent. of typhoid cases was regarded as almost hopeless, and yet to-day from the first operative case by Mikulicz the percentage of recoveries is estimated at 25 per cent. in adults and 65 per cent. in children. It is equally true that intestinal paralysis was looked on as the final stage of an abdominal disease, against which it was useless to contend; yet recent experience demonstrates that by aspiration or incision of the intestine and draining the canal, some, perhaps many, patients will be saved who certainly would have perished by ordinary methods. Our knowledge of pancreatic disease is recent. The surgery of the organ is necessarily limited, yet experience strongly indicates that its pathology is amenable chiefly to surgical procedures, and is but slightly influenced by medication. That the operative technic in these conditions will be improved there can be no doubt, as I am convinced will be the case in other diseased states whose pathology and treatment are not as yet well known. Still I believe that the professional mind of the immediate future will be occupied more with questions of preventive medicine and immunity—prevention by the formation of established medical opinion into rules and laws, and immunity through serum inoculation. Inoculation for smallpox was the beneficent beginning in 1798. The remedy for rabies, which we owe to the scientific genius of Pasteur, is the only treatment that bears good fruit, and it must be early. Since Behring produced diphtheria antitoxin in 1890, results have been revolutionized, and instead of fearing it as one of the most dreaded and fatal diseases, it is met in the confident belief, based on ample experience, that inoculation by antitoxin not only prevents, but its early use is practically a specific in the treatment of the disease. Experiments along this line to prevent typhoid fever are promising. Pneumococcic and antistreptococcic, cancer and antitetanus toxin medication are in a tentative state. The specific germs of all infectious diseases will yet be discovered; the remedy will follow, probably in serum therapy. Dum-

1. For many of the facts as to priority I am indebted to the address of Martin B. Tinker, M.D., before the Johns Hopkins Hospital Historical Club and to the American Journal of the Medical Sciences.

bar has, in the last year, demonstrated that the pollen of grasses and certain cereals is the active agent in the production of hay fever, and he has produced a serum which promises the most gratifying results in its treatment. We may hope, therefore, that in the not distant future these sufferers will not have to go to sea or climb mountain heights for relief.

With the exception of a very few diseases, we have no medical specifics, but in the future of medicine and in certain surgical states we have every reason to anticipate better results in serum inoculation.

In a brief allusion to medical education and preliminary requirements to its study, I do not intend to make invidious comparisons; but no man who is interested in his profession, its character and future, can be indifferent to the intense general interest manifested by the profession and educators at the present time. The subject, in all its phases, is most interestingly treated in the recent annual educational number² of *THE JOURNAL* of the American Medical Association, and in able addresses of physicians and educators, notably the address³ of the President of the American Medical Association, Dr. Billings of Chicago, himself a distinguished physician and teacher. This is a plain, forceful discussion of the subject, specifically and generally, in its relation to the qualifications and motives of teachers, no less than of students, and ought to be read by all.

The Association of American Medical Colleges has recently made a high-school degree the minimum preliminary standard for medical study,⁴ but as this standard varies in different communities, its value is somewhat uncertain, though it does indicate substantial progress. About one hundred of the one hundred and fifty medical schools in the United States are private. There was a time, not long ago, when the tuition of the students paid the salaries of the few teachers and the necessary expenses of these schools; but this is no longer possible in a modern school. The conditions are so different, the requirements and equipment necessarily so much more elaborate and expensive that the old era has passed away, and happily, not to return. Schools must be endowed by the individual or the state in order to meet the demand. The necessity and interests of the higher education in behalf of humanity and a more exalted professional standard should be the governing spirit and motive of those who receive, as well as those who give instruction. What shall be done to meet the recent just criticism of the long time required in getting a university or collegiate and professional education? One prominent college cuts the four years' course one year. Columbia proposes a two-year term, but it has not been accepted so far by any college. Four years in the high school, four years in the university or college and three in a law or four in a medical school is using too much time in preparation for practical business purposes. The high school and college courses are not as a rule taken seriously, and in the prevalent absence of a distinct purpose for the future, demoralization in spirit and in study and responsibility results, which further explains the idle talk that education unfits one for practical business. It would not be wise to curtail the medical course, neither is it necessary. Some of the universities propose, in the interest of medical students, to incorporate the fundamental branches of medicine in the junior and senior years, which would give

two years only to the exclusive study of medicine, chiefly clinical, thus making the university and medical course six instead of eight years as at present. It is to be doubted if this is the best solution of the problem. There is a better and more practical way. In my opinion the high-school course should be cut two years. If not, any bright boy can take a preparatory course of two years and enter any college or university in America, where he may remain three or four years and enter, well equipped, on his professional studies. I believe it feasible and perfectly consistent with the future vocation of the student to cut the college or university course one, certainly, and possibly two years, thus enabling one, without a sacrifice of the classics, to get a splendid business and professional education in three or four years' less time than is required at present.

Medicine is a profession of peculiar responsibility, and requires great patience in study and preparation. No young man should wish to engage in its practice on his own responsibility under 25; but having clinical advantages, which is necessary to the best equipment, he may safely undertake it after. Johns Hopkins has the highest preliminary requirement of any medical school in the country—a bachelor's degree, with a certificate of proficiency in chemistry, physiology and physics. With this innovation a few years ago, other schools and some of its own friends predicted failure, thinking the standard too high; but under it we learn that 100 freshmen entered the school the past year. Its success was assured in a short time. There was never a substantial reform incident to human endeavor unattended with suspicion, incredulity and opposition. However costly, we know that the medical profession is ever stronger and better for them. Before seeking a medical education, it is important for the student to consider natural fitness, as well as inclination for the work; or some field of learning or labor will miss a brighter star and some man a better destiny, however seriously he may have struggled.

There are 27,000 medical students in the United States at the present time, and over 5,000 graduates annually, which, according to customary estimates, is 2,000 in excess of the requirements of population. Billings and other authorities assert that there are too many schools, too many matriculates and too many graduates. That these defects in our educational system will be corrected is manifest.

In a recent publication we find the interesting information, incident to the medical congress just held in Vienna, that in the Austrian Empire the number of medical students has decreased 60 per cent. in the last ten years, and young men are advised against the study of medicine, partly on account of the poverty of the country districts, which has forced all the best men into the cities, with consequent dissatisfaction due to overcrowding. The important fact is also mentioned that owing to sanitary and hygienic reforms instituted by the profession, the number of cases of sickness has diminished 50 per cent. in the last twenty years. This might be profitable reading for Colorado governors and aspiring statesmen interested in the organization of "medical trusts."

The laboratory, as the necessary foundation of scientific medicine and the instrument of its application to human ills, must ever fill a most conspicuous place in the medical curriculum. It was the laboratory and the scientific work of such men as Pasteur and Tyndall which appealed to the practical genius of a Lister and

2. *THE JOURNAL* A. M. A., Aug. 15, 1903.

3. *Ibid.*, May 9, 1903.

4. *Ibid.*, July 25, 1903, p. 274.

formed the basis of modern medicine and surgery. By such preparation and efforts, experimental and proved, the profession will rank second to none in scientific work and standing. More than ever a broad culture is justly deemed necessary to the best teaching and to the most accomplished work, both general and special.

The special knowledge and peculiar fitness of medical men for certain branches of the public service, both legislative and executive, is more than ever being recognized. The health of cities, communities, states and nation, food and water supply, and conditions of living are chiefly in their knowledge and keeping. Without their influence and action there can be no sound legislation affecting these interests. Without them disease would still ravage cities, schools, states and nation, and those engines of commerce and civilization, in peace and war, would turn back from every sea and every land. It must be admitted that where this influence is felt in the customs and laws of a people, there only will both health and business unite in safety, and social advancement and material prosperity reach the goal of a reasonable hope and a just expectation. The complete realization rests with the medical profession in unity of purpose and concentrated action. In Europe, if not in this country, physicians may aspire to be even statesmen. More than here they fill important offices in the suffrage of the people. Sir Frederick Treves, in the zenith of a brilliant surgical career, foregoes some of its responsibilities to enter parliament. Lister and Playfair have received its chief honors. In the present year eighteen medical men were elected to the French Senate and more were candidates. The list includes members of the French Academy of Medicine and such distinguished names as Cornil, Pozzi, Peyrot and Jean Bayol.

We can not hope to pass good laws regulating the practice of medicine and conserving the public good without such effort on the part of the profession. Medical character, decent qualifications in those who practice and the public health demand positive and united action. No one who is fit to practice will object to it, and no enlightened citizen who respects knowledge and values character, can offer a reasonable objection. Yet we are treated to the humiliating spectacle of two governors of Colorado vetoing better laws than the one in force, and doing so practically in the direct interest of the most unadulterated charlatanism and in the spirit of that political Chauvinism, which, under the guise of personal liberty, is so often the cloak under which one hides ulterior motives and purposes; for that which is not for the good of the greatest number is usually not liberty but license. Only a Talleyrand can play this rôle successfully, and he would not employ the arts of the ward politician nor the sophistry of the demagogue. The pseudo Christian and scientist is one who, to my positive knowledge the past year (and he is representative of the class), is taken to the pest-house and treated for smallpox, yet on returning denies positively that he has been sick. If such people are fit to make laws and to advise governors as to their duty in such matters, then, indeed, ought taxation for educational purposes to be abolished, for if ignorance is to be thus commended, we should have no use for schools and universities. But as a fact, from the office of boot-black to that of President of the United States a different rule prevails, except as to the study of medicine and the qualifications of a doctor in Colorado. If years of preparation, study and labor do not the better fit

one for certain special work, then there is no virtue in knowledge, nor in the best and most humane endeavors. If utter ignorance of even the fundamentals of medicine, and the cyclical visitations of quackery, even though basking in the sunshine of science and a liberal Christianity, fits one to treat infectious diseases, and its legislative denial invites an executive veto, then where is the public safety and the vindication of learning, if not in the honor, the spirit, the conscience, the beneficent progress of modern medicine, and in that professional organization and action, state and national, now in progress, and whose influence is destined to be felt, even with those who only consider the question of votes in the determination of public questions. The governor vetoed the Sanford bill on the ground that it was in conflict with the "bill of rights" in preventing "christian" and other species of quacks from treating "contagious diseases," considering the practice by such people a religious exercise. The bill of rights guarantees freedom of speech, but holds the individual responsible for its abuse. It says that no person shall be denied any civil or political rights on account of religious opinions, but "it shall not be construed to justify practices inconsistent with the safety of the state." There is but one avenue to the legitimate practice of medicine, and that is a course of studies involving as essentials anatomy, physiology, chemistry, physics and clinical medicine. Without this preparation no person is fit to practice medicine, and no others deserve the protection of the laws. Any man who is competent to fill a distinguished public office ought to know this. The principle is recognized in the study and practice of law, of theology and of every other learned profession and practically in every known vocation except that of medicine. There is no reason and no excuse for the exception. It is a psychologic expression of conduct "that there is a natural tendency in the human mind to cast the burden of its doubts on a higher power and to relieve itself from the effort of decision and responsibility by seeking in mystery the solution of its difficulties." When a politician or official wants to do a thing for which he can give no valid reason, he appeals to the magna charta—to the bill of rights on religious freedom or to "trusts," seemingly, because one has the ring of casuistry and the other is an object of popular prejudice and distrust—as if society was not entitled to protection against vice and ignorance and the practices of those who, in the cause of mammon, usurp the sacred names of religion and science. In the ordinary business affairs of life people want those to serve them who are best qualified by study and experience. If health and life are valued as highly, one would think that the highest qualifications attainable would be as necessary and desirable. When those engaged in a calling demand the best preparation and the highest possible qualifications, it is in the interest of society and the state and should be welcomed by every enlightened people. "The safety of the state" demands a medical practice act and public health laws which are consistent with modern thought and progress.

Where enlightened medical opinion has been embodied into laws, sickness has diminished. This is the experience of the civilized world. When medical men are more numerous in legislative and executive offices, progress will be more rapid and satisfactory. The day is not distant when not only the food supply of the people but the water supply of cities and states, schools and public institutions, in fact everything that relates to the

public health, will be directly under the supervision of competent physicians. Four hundred children died in this country last July from tetanus due to accidents on the Fourth, chiefly from the toy pistol.⁵ Officials and the public have for years been warned by the medical profession of this danger. When its advice and suggestions are put into laws, needless mortality will cease and the public health will be safely guarded.

Impurities and adulterations of water and foods are so common and so full of danger to the public that every good citizen should hasten and welcome the day. It is not a matter of guess work. The knowledge is at hand to control these evils and to prevent endemic and epidemic diseases, which to-day are a reproach to every civilized community, for the causes and facts being known, it is only necessary to apply them to the government of homes, cities and states, and to the conduct of life to prevent and control them.

The nation, through the United States Public Health and Marine-Hospital Service, has exhibited commendable zeal and interest in excluding and suppressing portable diseases. When officials and law-makers are made to see and admit the truth that those who speak and act from special study and experience are the most competent to judge of the conditions, and, therefore, of appropriate laws affecting the public health, then sickness will be less prevalent and will be better treated and less fatal. Then, too, the solidarity of a common citizenship, guided by enlightened opinion and just laws, will mark a new page in the cause of humanity and in the annals of medicine. If every profession does not hold up its own standard, others will not do it for it, even in a progressive age. If we are animated by the good of the many rather than the selfishness and interests of the few, opposition will wear away. The history and progress of medicine is a struggle against ignorance, superstition and cupidity. It is identified with the betterment of mankind—a profession in which is blended aspiration, ambition and the most worthy altruistic motives. Its cause is that of humanity and science, and though the few must handle the laboring oar, time will, as ever, vindicate the effort.

We appeal for just and liberal laws governing the study of medicine, and a higher, more uniform and exact standard in the requirements for study and in the qualifications to practice, knowing full well that this alone is for the general good and to the honor and dignity of a profession; whose whole life is one of labor and sacrifice for the welfare and ennoblement of man.

This was the dream of Hippocrates 2,500 years ago. Its realization is no longer a hope or a doubt. The struggle for the preservation and improvement of the best is ever on and will never end. As each heroic generation rounds out its day and enjoys its blessings, the next will take up the unfinished task and carry it on to still greater perfection. This is our heritage, our duty and our destiny. For since the sixteenth century we have not honored an idolatrous worship, but respect men for what they are and value them for what they do.

5. THE JOURNAL A. M. A., Aug. 29, 1903.

Original Articles.

DEMONSTRATED PATHOLOGIC CHANGES FROM ALCOHOL.*

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Recently a new field has been opened for a study of the symptoms following the use of alcohol. The external phenomena of the functional and mental activities of the body can now be measured and tabulated with exactness unknown before. It is assumed that, if the current beliefs and theories are true concerning the tonic and stimulant action of alcohol on the organisms, it is possible to prove it by the more perfect instruments of precision. Also that theories and variable experience held so tenaciously by many persons can be tested by something more than experience, logic and intuition. The action of alcohol taken in the body can now be traced by a study of the functional activity of the senses, the movements of the heart, the muscular activity, mental vigor, temperature of the body and other conditions with a degree of accuracy unknown before. From this point of view a number of observers have taken up this problem and pointed out conditions clearly traceable to the action of alcohol about which there can be no question.

Professor Kraepelin of Heidelberg has for a long time made experimental studies with instruments of precision on the external phenomena of the body which were due to the action of alcohol. These studies have been going on for years, and recently the conclusions of some two thousand of these experiments have been published. Other observers during the last two years have repeated these experiments with newer instruments of precision, verifying Kraepelin's studies, and adding some new facts to the subject. I have made many of these experiments personally, and, in common with other observers, have been astonished that such work has not been done before. The uniformity of the conclusions indicate a range of facts that very largely explain many of the symptoms following the use of alcohol. In these experiments, only healthy, temperate persons are available. In Kraepelin's work they were generally university students and a few laborers whose lives were temperate, and whose occupation and living were uniform. Each person was examined at a certain time every day to determine the sight, hearing, taste, smell, muscular activity, heart's action, temperature, point of muscular fatigue, memory, time reaction and thought rapidity. These examinations were made daily for a period of ten or more days. The results were tabulated and the average of these examinations was put down as the normal equation of the man. Sometimes the experiments were carried on for a much longer period. The normal condition having been ascertained in this way, the person was given at a certain hour in the day midway between meals or after the time of eating, an ounce of ethylic spirits. Thirty minutes after very careful examinations were made of the senses and other conditions, and these examinations were repeated every forty minutes for a period of two or

Experience with Morbid Minds.—The *Alienist and Neurologist* emphasizes the value to the general practitioner of medicine of an insane hospital experience in addition to a general hospital internship. It is well to know abnormal and normal psychic symptomatology in their clinical aspects, when we go out to detect and combat the morbid enemies of mankind as they appear in the diseases that affect humanity.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

three hours. The second day after, a similar quantity of alcohol was given, followed by the same measurements and tabulation of all the symptoms following. This was continued every day or every second day, according to the susceptibility of the person, until ten or more examinations were made, the person in the meantime living with great regularity, both in exercise, diet and sleep. At intervals of four or five weeks, and sometimes two months, the subject was experimented on again. The results of these experiments on a large number of persons extending over several months indicated the following general conclusions:

THE ACTION OF ALCOHOL ON THE SIGHT.

If the normal vision of a healthy man will enable him to read letters a half an inch long thirty feet away, from thirty to sixty minutes after the use of an ounce of spirits these letters can not be seen at that distance, and must be brought up to within eighteen or twenty-five feet to be seen. The sight has diminished to the extent of from ten to twelve feet. The color sense was also disturbed. Colors that could be distinguished were obscured or lost altogether. The red lines had faded away and were totally obliterated. Forms and shapes were blurred and indistinct, except when seen very near. The expression of the eye was changed. Clinically, this palsy of vision so apparent in intoxicated persons, seen in the prolonged staring and efforts to concentrate the sight, is a very common symptom. This is confirmed in the experience of persons engaged in work requiring precision of vision, also in painters and photographers, who soon realize that the use of spirits seriously disturbs the accuracy of their work and hence never drink in business hours.

EFFECT ON HEARING.

The sense of hearing was markedly diminished. In health, where the sound of a watch could be heard clearly at thirty or forty inches from the ear, this distance was lessened in half an hour or more after spirits had been used. The watch must be moved to ten or fifteen inches from the ear to be heard. Thus the sense of hearing was diminished from a third to a half. Certain sounds could not be distinguished. Certain tones were confused or lost altogether. Musical sounds were greatly disturbed and confused. Extreme states of these palsies are commonly seen in the intoxicated man whose voice is always several keys higher than natural, simply because he is deaf and can not hear his own voice except by speaking in a higher key. Even the moderate drinker shows a failure of hearing in the changed tone of voice.

EFFECT ON TOUCH.

The sense of touch was also found diminished. The capacity to distinguish between heat and cold was impaired. Bulbs of iced and hot water which could be distinguished normally at a distance of an inch, after the use of spirits must be separated two or more inches to be recognized. Rough and smooth surfaces were equally confused. The distance at which they could be discriminated normally was enlarged by half or more. In some instances, hyperesthetic states of the skin appeared in the first half hour after the use of spirits, then anesthesia came on, remaining one or two hours before passing away. The first effect of spirits, giving an impression of warmth over the surface, was followed by a sensation of cold which remained a long time. The surface sensation of the body was found to be deranged a much longer time than that of sight or hearing.

EFFECT ON TASTE.

The sensation of taste was changed. Mixtures containing so many drops of bitters, salts or acids, which could be detected in health, after the use of spirits were not recognized. The quantity of flavoring substance used was increased from a third to a half more before it could be recognized. Tea-tasters and experts who depend on their ability to discriminate flavors find from practical experience that this sense is greatly disturbed and obscured by the use of spirits. The power to discriminate odors was equally disturbed, both as to quality and distance. Carbolic acid, which was readily discerned in health, was unrecognized at a short distance and only faintly perceived when brought up closely. Both the sense of taste and smell were profoundly depressed from the effects of an ounce of alcohol, this depression only passing away some hours after.

EFFECT ON MUSCULAR CAPACITY.

The effect of alcohol on the muscular capacity was tested by the dynamometer and aërograph. The normal muscular capacity for lifting, pulling or pushing, also the point of fatigue, was determined in these cases. After the use of an ounce of spirits an apparent increase in this power appeared, but this always passed off in twenty to thirty minutes, followed by a marked diminution. The capacity to push with forearm seventy-five pounds or more was diminished to fifty, and sometimes more, within an hour. The power of pulling five hundred pounds dropped down to three or four hundred, also the ability to raise a weight twenty inches declined to fifteen inches in the course of an hour. The point of fatigue was marked. In a long series of experiments it was found that fatigue would follow after raising so many pounds so many feet. The arm or leg capacity having been ascertained, after the use of alcohol this was greatly diminished. Thus a person who could raise with his forearm 100 pounds in one-pound weights one foot in a limited time, utterly failed to raise half this weight in the same period an hour after alcohol was used. The fatigue point was reached in half the time and with half the work done.

EFFECT ON THE HEART.

The action of alcohol on the heart beat indicated two periods, a short stage of irritation and increased activity, followed by a long period of depression with slow recovery. Thus the heart's action was increased from ten to fifteen beats the first half hour, then there was a steady fall, in many instances the beat rate declining as far below the normal level as it had ascended above. In several instances this increased activity was very rapid. In others it was slow, but in from twenty to thirty minutes the maximum was reached, then followed a decline.

The temperature of the body showed slight fluctuations, never rising, but always falling, sometimes half a degree or less.

EFFECT ON MENTAL FUNCTIONS.

The action of alcohol on the mental functions was very marked. Thus on memory where from a series of experiments the natural equation indicated a range of 10 per cent. of failures in health, after the use of alcohol this percentage doubled. In the card test where a person seeing a set of cards was required to put down the duplicates, or where a list of names was given which the person was required to write out after seeing them a moment, a very marked palsy of this faculty appeared.

Thought rapidity and time reaction showed the same paralysis. With the aid of a battery and a clock marking the parts of a second the time was measured from the moment an object came into the field of vision to its record on a dial by the pressure on a button. This, in parts of a second, showed both the rapidity of sight and brain power of registration. If in health such impressions could be recorded in a fourth of a second from the time it was seen, after the use of spirits this time was lengthened to one or more seconds. Another experiment to show thought rapidity was to repeat words or short sentences uttered by others and registered in the same way by an electric clock. The health standard having been found, the action of spirits literally doubled the time in these cases. Numerous experiments involving reason and discrimination were made, one in which the person was asked to pick out pictures of animals and name them from a group in sight. After the use of spirits the time required was 40 per cent. longer, showing impairment both of the senses and the power of reasoning. In some experiments which I have made on simple mathematical calculations the percentage of mistakes was from 15 to 20 per cent. greater after spirits were used than before. Persons blindfolded and given tasks requiring consciousness, reasoning and correct thought were found to show very marked change and palsy after spirits were used.

These experiments may be carried on in a great variety of ways; having first found the normal condition of the person, the deviation from this can be ascertained and measured with great accuracy. During the past year Kraepelin has published some new studies, in which he has been able to recognize and measure the effects of half an ounce of ethylic spirits. This would be equivalent to an ordinary glass of one or one and one-half ounces of the common strong drink. One ounce of spirits is the ordinary equivalent of two and one-half ounces of whiskey containing from 40 to 50 per cent. of alcohol. These experiments are very significant, and seem to point out conclusively that alcohol in these doses is distinctly a paralyzer. In some work done in this country along this line where a single dram of alcohol is used, the effect on the sight and hearing was transient, but the effect on the higher brain was measurable. The difficulty in having a personal equation or normal standard from which to judge is a serious one. I have been able to point out in two cases very marked depression of the senses and brain activities from two drams of alcohol, but not having any knowledge of the person, the value of these experiments were limited.

These experimental studies are supported by clinical experience and fully illustrated in every person intoxicated by alcohol. The observations of a number of persons, including the writer, show that in all toxic states from spirits there is the same palsy of the senses and of muscular power, depressed heart's action and slowing up of the mental activities of the brain. Hence the researches of Kraepelin confirm these facts and show conclusively that the paralyzing action of alcohol begins at a very early period and from a very small quantity of spirits. It is difficult to believe that it has any other action on the nerve centers or protoplasm of the body than that of a narcotic and paralyzant.

Rice cooked with milk furnishes the most easily digested food with the largest amount of nutriment contained in moderate bulk.—*New York Medical Journal*.

THE LEGITIMATE THERAPEUTIC USES OF ALCOHOL.*

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In discussing this topic it is best to first state just what we have the right to expect from alcohol as a medicine. The desired action from a dose of whiskey or brandy or its equivalent is a warming of the surface of the body, an increased pulse tension, a moistening of the dry skin, absence of nausea, absence of much flushing of the face, absence of throbbing in the head, unless a case of syncope is treated by a large dose, when many of these primary undesired symptoms might occur. In giving alcohol continuously the dose should be regulated by the signs. If it causes flushing of the face, dry skin, dry tongue, a throbbing, bounding pulse, even temporarily, and the odor of alcohol is on the breath, the dose is too large.

Alcohol is by no means a cure-all, and, undoubtedly, in the past much harm has been done by its indiscriminate use. Perhaps, even to-day, it is used more frequently and more freely than its physiologic action warrants, and it should never be prescribed unless there is some definite indication for it. Indications for the use of alcohol may be divided into:

1. Local.
2. To stimulate the heart.
3. As a food.
4. To increase the appetite and aid digestion.
5. To relieve acute internal congestion.
6. To dilate and relax the peripheral circulation.
7. To produce sleep.
8. To combat poisons in the system.

THE LOCAL USE OF ALCOHOL.

The stronger preparations of alcohol may be applied to any part of the surface of the body as an astringent to stop secretion and to harden the tissues. For this purpose it may be used to harden the nipples to prepare for suckling, to stop profuse perspiration of the axillæ or feet, to prevent bed-sores, and weaker alcoholic preparations may enter into the composition of hair tonics to prevent too much sebaceous secretion and oiliness of the hair. Strong alcohol is hemostatic to capillary oozing. Absolute alcohol more or less constantly applied to the surface over a beginning boil, as in the ear for instance, may prevent its culmination and abort it. In concentrated form it will act as a rubefacient while being rubbed on the skin, but if allowed to evaporate it will cool the surface of the body. If diluted it evaporates more slowly and the cooling is prolonged, hence it is often used to reduce temperature. If the surface of the body is sponged with warm alcohol it is sometimes very soothing, quieting restlessness and producing mental calmness in a feverish patient. Probably a large part of the advantage of the different tinctures and extracts used for sprains, bruises, etc., is due to the alcohol which they contain. Alcohol diluted somewhat, depending on the thinness of the skin, applied on gauze or lint or lintine and covered with rubber tissue or other impervious dressing and changed every six hours, will remove the swelling

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and pain from a sprain and aid in the cure or prevention of synovitis, myositis or inflammation of the tendons quicker than most any other treatment we can institute. Diluted alcohol, one to four or five parts of water, or weaker, makes a good astringent and antiseptic mouth wash, hardening the gums and sweetening the breath. Flannel or towels wrung out of very hot water sprinkled with alcohol and placed on the abdomen or any other part of the body and changed every fifteen minutes for an hour or two causes a splendid rubefacient and counter-irritant action. A brick heated in the oven, wrapped with three or four layers of flannel dipped in boiling water and allowed to drain, and then a considerable amount of alcohol poured on it, placed beside a warmly covered patient in bed, will produce a splendid alcohol steam bath. Locally applied to the back in this form it is very efficient in the treatment of lumbago.

In the form of alcohol brandy is especially a carminative and an astringent for diarrhea, and markedly so in the form of blackberry brandy.

TO STIMULATE THE HEART.

There is a considerable difference of opinion to-day as to the value of alcohol as a cardiac stimulant. Its action on the vascular system, however, is marked and positive. The irritation which strong alcohol in any form causes on the mucous membrane of the throat, esophagus and stomach acts reflexly through the medulla to cause vasoconstriction and, hence, a rise of blood pressure, and increased blood pressure is always a stimulant to the heart. After alcohol is absorbed into the blood, where it circulates as alcohol, it can not, in my opinion, by its physiologic action on the vasomotor centers, on the blood vessels, and the heart, ever be a stimulant, although, as its secondary effect is to dilate the blood paths, this very effect of increasing the peripheral circulation may better the condition of the heart. Through, then, the irritant impact of the alcohol on the mucous membrane the blood pressure is first raised, but when it is absorbed the blood vessels dilate, especially those on the surface of the body. This relieves any spasmodic contraction of the peripheral blood vessels, whether from fear, from pain, or from chilling of the body, and this equalization of the circulation relieves any internal congestion that may be present. By this widening of the blood paths, provided no condition of shock is present, alcohol will relieve the laboring of a weakened heart. If too large doses of alcohol are given this vasodilatation goes on to partial paralysis of the blood vessels, and a weak action of the heart from this cause alone will occur. Hence, in shock where the blood vessels are widely dilated or perhaps paralyzed, either from chloroform or ether narcosis, or from morphin narcosis, or from injury or collapse, alcohol, except for its primary stimulant action in small doses, would do harm and is contraindicated.

The exact action of alcohol on the heart itself is not proved beyond a reasonable doubt. Certain it is that overdoses of alcohol after absorption are depressant to the heart muscle, to the muscle fibers of the blood vessel walls, and to the vasomotor center in the medulla. In sudden cardiac failure the reviving action of alcohol seems to me to be due entirely to the reflex stimulation of the mucous membrane of the throat and stomach. By this stimulation we cause an increased cardiac frequency and a slightly raised blood pressure from the contraction of the arterioles due to the reflex action on the medulla. This action, which occurs before much

alcohol has been absorbed, may tide over the condition of acute cardiac failure, and if not much alcohol has been given there will be no future cardiac or vascular depression. If too much alcohol has been administered and absorbed the result will be to increase the previous depression unless more fresh alcohol is given for its continued stimulant reflex effect. If the previous doses are not too large and are, hence, rapidly burned or eliminated, the effect will be continued stimulation and not depression.

In conditions of high temperature where the heart is very rapid from the stimulation of the fever, from the irritation of the toxins in the blood, and from nervous irritability, alcohol, by quieting the nervous system, dilating the peripheral blood vessels, and possibly combating the toxins in the blood, generally reduces the temperature and slows the pulse. If the dose is properly regulated, this action will be found to be continuous for good. Too large doses or too frequent administration of alcohol may do one of two things: either stimulate the brain and cause more excitation, increasing the temperature by increasing muscular irritability and restlessness and causing enough of its local reflex irritation to make the pulse bounding and full, or, if it is too rapidly absorbed, it will give the symptoms of alcoholic depression on the circulatory system. Hence, in acute cardiac failure to get the stimulant effect of alcohol it must be given concentrated as exemplified by brandy, whiskey, gin, rum and champagne, and in small doses. To keep up this stimulation another dose must be given in from fifteen minutes to half an hour or an hour, depending on the continuousness of the heart weakness, in order to repeat the stimulation of the irritation. As just stated, the dose should undoubtedly be small, as the future depression from the absorption would be less than it would from large doses. If the frequency of the dose is such that alcohol piles up in the system and more is given before the previous ingested amount has been burned or eliminated, to obtain stimulation it will be necessary to give larger and larger doses, first to overcome the depression caused by the previous alcohol, and also to cause the usual stimulation. As more and more alcohol is absorbed whether from the stomach or from hypodermic injection, depression, vasomotor dilatation, cardiac weakness, and more or less paralysis of the nervous system are sure to follow. Hence, to combat continuous or persistent cardiac failure or depression, alcohol is the poorest stimulant we can use, and if much is given we are poisoning the system and adding depression to depression that is already there and the treatment is vicious.

In conditions of prolonged fever where alcohol is given no more frequently for any length of time than every three hours, one dose is probably eliminated or burned before the next one is given, and we get the primary stimulation plus the dilatation of the peripheral vessels, which equalizes the circulation and reduces the temperature.

Let me parenthetically say that I have often obtained the same good circulatory results in sthenic fever from small doses of nitroglycerin that I have obtained with alcohol.

In serious feverish conditions undoubtedly the narcotic effect of alcohol in quieting the patient, who is highly alert to his danger, may be of distinct advantage, as mental worry and anxiety are great disturbers of the

heart and circulation and should be overcome by any legitimate means.

The only time, then, that I believe alcohol can meet the indication for a cardiac stimulant is in acute cardiac failure, and then it is a stimulant to the heart only before its absorption, by the irritation which it causes the mucous membrane of the mouth, pharynx, esophagus and stomach, or the rectum, if it is given as an enema, or by the irritation of the tissues, if it is given hypodermically.

ALCOHOL AS A FOOD.

I believe that as a nutriment alcohol is uneconomical to the system and if long used is a positive disadvantage, probably even sugar being better where the amount of food obtainable is too small for the needs of the body. During feverish processes, however, as a nutriment to furnish material for the production of heat to save the tissues, fat and muscles it is of decided advantage and probably has no equal, if in such fevers not enough nutrition is taken. Undoubtedly at the present time many cases of fever are overfed. Whether whiskey or brandy should be given in every case of typhoid fever or diphtheria, or in the feverish debility of tuberculosis, or in other acute infections, is a question that each practitioner must decide for each individual case. Many such cases do well without it; many cases recover only by the use of it.

TO INCREASE THE APPETITE AND DIGESTION.

This is a very questionable indication to meet with alcohol. In occasional cases of neurasthenia, anemia, malnutrition, and inertia of the stomach, with imperfect gastric secretion, a small cocktail before meals may be justifiable and proper, but, rather than select a known alcoholic beverage for this purpose, some bitter dilute tincture will do as well, and will more readily preclude the possibility of acquiring the habit. Late in life some such stimulant to nutrition may be justifiable.

TO RELIEVE ACUTE INTERNAL CONGESTION.

After becoming chilled or getting wet or being subjected to other exposure, as the exposure of exhaustion, hot alcohol in some form combined with a hot general bath, or a hot foot bath and a warm bed, with or without a Dover's powder or quinin, is undoubtedly good treatment as tending to relieve or abort the internal congestion, whether it be nasal, pharyngeal, tonsillar, laryngeal, bronchial, pulmonary, pleuritic, nephritic, arthritic or intestinal.

TO RELAX THE PERIPHERAL CIRCULATION.

This indication for a vasodilator is present only in gouty or atheromatous conditions of the blood vessels or whenever there is too high blood pressure in the middle and late stages of life. Generally without any doubt this indication is better met by small doses of nitroglycerin, thyroid extract, potassium iodid or small doses of chloral, as well as by causing increased elimination from the skin and intestines. However, many cases occur in which alcohol has been more or less regularly taken and a small amount once or twice a day with the meals, provided the amount is such as not to cause flushing or a feeling of fullness in the head, may be of positive advantage.

TO PRODUCE SLEEP.

The use of alcohol for this purpose is only justifiable in exceptionally acute conditions or where the condition is probably not to recur, or in old people. A little

nightcap of some alcoholic beverage, often, perhaps, beer, perhaps a spirit, diluted so as to prevent much stimulation, which would cause sleeplessness, just sufficient to dilate the abdominal and peripheral vessels and thus to depress the circulation in the brain, will act as a hypnotic. There are many other, perhaps, generally better methods of causing this sleep, but often the association of symptoms and conditions is such in elderly people that it is good treatment to use alcohol.

TO COMBAT POISONS IN THE SYSTEM.

It is difficult to discuss, with any reasonableness, this indication. It has long been stated, but often disputed, that alcohol in large amounts will prevent dire results from the bites of poisonous snakes. If alcohol is given in enormous amounts in the shape of whiskey or brandy the patient is soon in the first stage of alcoholic poisoning. Some acute infections in which death seems imminent have been said to have been stopped by enormous doses of alcohol, notably the final toxemia of pneumonias. The antitoxic power of alcohol in the blood against these toxins must be corroborated or disproved in the laboratory. Clinical experience in this line leaves so much room for doubt that the matter is still subject to proof.

DISCUSSION

ON THE PAPERS OF DRs. CROTHERS AND OSBORNE.

Dr. J. H. MUSSER, Philadelphia—I use less alcohol in my practice than I did in former years, particularly in fevers. I feel that we are employing a dangerous remedy when we use alcohol, and for moral reasons, as well as because of the doubtful pathologic results, I employ less and less of it. The indications for its use in acute diseases are those found in intoxications as arise in septicemia and for its narcotic properties. Under these circumstances patients seem to be able to stand enormous amounts, i. e., in streptococcus infections, and in that type of typhoid fever seen in the aged—the septicemic type. In typhoid fever in the young, when the disease presents actual septicemic symptoms, I use it, but I prefer to use it in very small doses, and I give large doses only for a short period of time. I believe that if we withhold it and then for a short time give it in full doses we may possibly pull the patient through a condition to which he would otherwise succumb. Each year I use less alcohol, particularly in the two diseases in which we were wont to give it frequently—typhoid fever and pneumonia; here I use it only as an emergency remedy and for short periods of time. It is interesting for one to look back over his career and note any changes in his ideas. I am pretty well satisfied that I have more patients recover from typhoid fever now than ever before, and I believe this is largely due to the manner in which I handle stimulants. Of course, there are two periods in the management of this disease, in my career, the period before the bath and the period since the bath was instituted. In the latter period, in the cold water period, I find that patients get along better without alcohol than they formerly did with alcohol and no baths. Of course, this is to be expected. Moreover, under circumstances beyond our control baths can not be employed or are contraindicated. In this group of cases I use much less quantities of stimulants with better results—certainly at no disadvantage to my patients—than formerly. I believe I can say that without qualification as to the character of the disease. I think I have seen sicker people who are not put in tubs in typhoid fever in the latter period than in the time before the baths, and yet the mortality is less. I certainly can not attribute the lessened mortality to anything else because we do not use other drugs to any extent, and when we do use them it is only as we use alcohol, just as the occasion demands for a brief period and then stop.

Dr. J. A. STORCK, New Orleans—We ought to try to find out the action of alcohol in carbolic acid poisoning. What is the rationale of the antidotal effect of alcohol in carbolic acid

poisoning? In a recent meeting of a medical society this question was threshed over, but no definite conclusion was arrived at as to whether its action was due to chemical change or to mere dilution. The fact remains, however, that alcohol is the ideal antidote for carbolic acid poisoning.

DR. W. J. ROBINSON, New York—In reference to the statement by many physicians that they are using alcohol less and less each year, I have no doubt that a good many do use less, but I come across some who think they use less, yet in reality they do not. For instance, a number will give liquid peptonoids and other preparations under the impression that they are not giving alcohol, and yet we know that these things contain from 20 to 25 per cent. of alcohol, so that when a physician gives 8 ounces of liquid peptonoids he gives about 4 ounces of whisky. This is, of course, not true of all physicians, but it is a fact in many instances. In reference to septicemia, especially puerperal septicemia, I do not believe there is any drug equal to alcohol. As to alcohol and carbolic acid, there is a true chemical reaction. This is a fact; it is not a simple dilution, because we can not get the same effect with water, even if the latter be used in 100 times the amount. Experiments have been made in this direction on the outside of the body, and it has been shown that alcohol completely neutralizes the carbolic acid, and probably the same effect is obtained in the body.

DR. J. H. MUSSER, Philadelphia—I do not bother with panopeptone and such preparations except in cases in which we can not give food by the stomach. It is a class of remedies that I consider pernicious.

DR. A. C. CROFTAN, Chicago—Few people realize that alcohol has been demonstrated to be a normal product in the dissimilation of sugar. I have done some work along this line. If you take a large quantity of human muscle, or pancreas, for instance, and, under certain technical precautions, distill it with water you will get an appreciable quantity of ethyl alcohol. The knowledge of this would probably horrify the temperance advocates. From a purely physiologic standpoint this may indicate that a small quantity of alcohol is probably a physiologic stimulant.

DR. S. SOLIS-COHEN, Philadelphia—Are the sulphates a better antidote to carbolic acid poisoning than alcohol?

PROF. C. S. N. HALLBERG, Chicago—The alkali sulphates have always been regarded as the chemical antidotes because the double decomposition forms sulphocarbonates, but alcohol has certain effects which can not be obtained by using the sulphates. In addition to alcohol, camphor has a modifying effect on the carbolic acid, so that their combination, as in spirit of camphor, would probably be more effective.

DR. S. SOLIS-COHEN, Philadelphia—I am one of those who, like Dr. Musser, do not use disguised forms of alcohol, and yet I am conscious that my resort to alcohol in acute febrile affections, and especially in typhoid fever, has been lessening steadily. In fact, I never think of prescribing it, unless some special condition calls for it; in other words, I use it as I would use opium or any other drug, in specified dose for a special purpose.

DR. T. D. CROTHERS, Hartford, Conn.—We have reached a point in experimental researches where certain facts can be demonstrated with a reasonable degree of accuracy. All assertions concerning the action of alcohol on the body should not be accepted to-day, unless they have been subject to some scientific test and critical examination. The clinical fact that alcohol is an excellent refrigerant in fevers when used externally can be confirmed with great exactness and traced to the rapid water-absorbing property of alcohol. When alcohol is used as a stimulant and tonic, scientific experiment fails to point out the evidence necessary to sustain this assertion, hence such theories are only vague unsupported inferences. While it can be shown that alcohol acts most positively on the heart and vasomotor centers, both increasing and slowing up the organ and the circulation of the blood, the effect of this peculiar action is unknown, and until more accurate researches are made we must regard this action as more or less dangerous. Any remedy which disturbs the nutrition and the rhythmic

flow of blood through the brain should be used with great caution. The known effects of alcohol on the senses, blood vessels and heart are very limited compared with the unknown, and yet this little knowledge is startling in the clearness with which it points out the corroding action of this agent, together with other effects not yet studied. The toxic action of alcohol, either in small or large quantities, falls most seriously on the blood vessels and heart; beyond this stretches a wide unexplored country. My paper is simply a contribution to the work that is to be done in this direction, and also an indication of how wide the domain of exact studies are.

DR. O. T. OSBORNE, New Haven, Conn.—I wish to emphasize the fact brought out in the paper that we have been using alcohol during all of these years as a cardiac stimulant in fevers, and we come to find out that it never acts as a cardiac stimulant, but that it acts as a vasodilator, and hence is of value in sthenic cases. I have seen nitroglycerin effect the same good results as alcohol. Cirrhosis of the liver caused by overuse of alcohol simply bears out the fact that continued irritation of any organ sooner or later tends to produce connective tissue in that organ.

NASAL POLYPUS; ORIGIN AND TREATMENT.*

CHAS. H. BAKER, M.D.

BAY CITY, MICH.

There is a variety of growths within the nasal chambers to which the name polypus has been given, and much confusion has arisen in consequence, both in regard to the origin and frequency of nasal polypus. Those who restrict the term nasal polypus to the gelatinous form find them comparatively infrequent compared to the total of nasal disorders, while others, like Zuckerkandl, who included posterior turbinate hypertrophies and fibro-adenomata, claim that they occur in every eight or nine autopsies.

It is my purpose to confine this paper to the discussion of the true nasal polypus or gelatinous myxoma, although what I shall say as to their causation will apply largely to the other growths which have been classed as polypi.

ORIGIN.

True nasal polypus has by different pathologists been classed among the adenomata or the myxomata according to whether one or the other elements predominated in the structure. The prevailing type is that of a pure myxoma with delicate connective tissue stroma, few vessels and made up principally of the characteristic stellate myxomatous cells imbedded in gelatinous intercellular substance, chiefly mucin.

There are certain variations according to location, life history and presence or absence of outside interference or irritations, and many are found with much connective tissue and glandular structure replacing the ordinary mucous contents. The fact that mucous polypi seem occasionally to undergo cystic degeneration indicates that they may be partly glandular in origin, but true cystic degeneration of the mucous polypus does not occur.

By far the majority of polyps spring from the anterior edge of the middle turbinate or from the edges of the hiatus semilunaris; next from the upper and posterior portions of the middle turbinate and, lastly, may be found in the interior of a bullous middle turbinal or about the outlets of the accessory sinuses. Very rarely they have been found in other localities, but when so

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

found have belonged to the type which I have excluded from the designation of true nasal polypus.

Bosworth has said: "It is difficult to assign any definite cause for the occurrence of nasal polypus. They are certainly not due to any impairment of the general health or constitutional diathesis, for, as a rule, they occur in patients in vigorous health." Sajous says: "They are usually considered to be due to a chronic inflammation of the schneiderian membrane."

Mackenzie¹ has controverted this view on the ground that polypus is rare in children under the age of sixteen, while catarrh is very common during those years. This is a strong argument in favor of my contention that they are produced by suppuration in the accessory sinuses, which, as we all know, are rudimentary until that age.

Bosworth inclines to the view that as the middle turbinate is chiefly concerned in osmosis in the nasal chambers the membrane is liable to become water soaked from the action of gravitation and traction from the inspiratory effort. He says: "As to what peculiar nutritive disturbance in the meshes of this tissue predisposes to this form of degeneration I have no explanation to offer."

Billroth believed them to be due to the occlusion of the ducts of some of the glandular elements and consequent mucoid degeneration, which was the view adopted by Zuckerkandl. They all just miss of an explanation which explains the occurrence of polyps in the case of fracture of the vomer mentioned by Gerdy or the frequent occurrence in cases of syphilitic ulceration where polyps spring up along the edges of the lesions; or their growth from the edges of the healing stump of a middle turbinal after removal of the latter.

SYMPTOMS.

When first forming, polypus manifests its presence by intense irritation of the mucous membrane with usually a profuse watery discharge, but when well established the membrane often becomes so tolerant of the pressure that there are no symptoms except those due to the interference in respiration. This is due, I think, to the subsidence of the violence of the initial suppuration rather than to tolerance to the pus.

As the growth increases there is a sense of obstruction to respiration out of proportion to the interference with the passage of air, undoubtedly owing to the irritation in the region of the middle meatus, which is the principal respiratory channel. The sense of smell is early interfered with owing more to the degenerative changes than to any mechanical interference with the impact of odorous particles on the schneiderian membrane.

The stenosis varies considerably with the dampness of the weather, some have supposed owing to their being hygroscopic, a view which is hardly tenable. Is it not rather due to the difference in the total atmospheric pressure on the body surface and the slower adjustment to this pressure by tissue of such low vitality and without muscular elements?

The nasal mucous membrane is intensely irritable in the presence of polypus, one small growth often causing as severe a paroxysm of asthma as does a whole nose-ful. There is persistent hyperemia co-existing with nasal polypus which induces great sensitiveness in the nerve endings, making them extremely sensitive to temperature and barometric changes, which irritability is, in turn, reflected back onto the general nervous system,

and patients suffering with polypus are, therefore, peculiarly subject to reflex disturbances with every change of the weather.

Polypus is accompanied by profuse nasal discharges which are chiefly mucoid when the causative accessory sinus inflammation is quiescent, but quickly become purulent on slight provocation.

This brings me to my chief contention that nasal polypus is the direct result of suppuration in the cells or sinuses communicating with the nose, or inflammation of the periosteum covering the middle turbinate dependent on previous purulent inflammation within the bone itself. Nasal polypus is like granulation tissue from any mucous surface differentiated by the local modifications of the membrane lining the nose. It is like granulations elsewhere—the expression of the natural efforts at repair of tissue under the stimulus of irritating pus discharges.

We are often first called to see polypus when fully developed and when the sinus inflammation has subsided and find only bland mucous discharges. Some have concluded that when pus does accompany polypus it is the result instead of the cause.

The only way to know what is the true connection is to study the cases of small and embryonic polypus and diligently inquire into the history of each patient with full-grown specimens, when it is often easy to trace the inception to some unusually obstinate cold with prolonged flow of pus or to some systemic disorder like typhoid fever.

Solutions of continuity of the mucous membranes are very common in these conditions, and the flow of pus from a diseased sinus over the raw surface is very apt to produce what a similar flow produces in other parts, as a discharging ear, a healing mastoid or wound in other regions, namely, excessive granulations. "Proud flesh" does not occur in all wounds; neither does polypus occur in all suppurating noses; but the latter happens in as fair proportion to nasal suppurations as does excess granulation in the former.

All noses are liable to purulent inflammations, but not all have polypus any more than all scarlet fever cases have nephritis, or diphtherias are followed by paralysis. Syphilitics, either primary or secondary, are more prone to polypus formations than are healthy subjects, and the lymphatic temperament also seems more liable than the other constitutions. I do not know whether my experience is unique, but I find the Germanic races oftener the hosts of polyps than others in about the proportion of two in three of my total cases, and I do not think this is due to any preponderance of these people among my patients, as this is not the case.

As has been stated, nasal polypus originates chiefly from the nasal portion of the ethmoid, and suppurations occurring as they do in the accessory sinuses and cells tend to produce irritation of this bone and the mucous membrane covering it, owing to its position in close apposition to the outlets of these sinuses where it is exposed to the emerging pus before it is diluted with the nasal mucus.

For these reasons polypus is chiefly found on the membranes most closely in touch with the outlets of the sinuses and cells, and the natural flow of pus and mucus being backward into the pharynx, both the inferior and superior turbinates are out of the way of the greater part of the irritation.

The upper turbinate lies too high to be reached by the downward flowing pus, and the lower turbinate seems

1. Bosworth, 1889, p. 391.

to be more resistant than the middle, although the rear end over which more pus flows is subject to a form of degeneration which simulates polypus as closely as the difference of structure permits.

Nasal polypus has been found on the septum and the superior portion of the middle turbinate, but so far as I have observed it never occurs in these localities except when there are masses of polypus filling all the available drainage spaces and damming the flow of pus back so that these parts which usually escape are bathed in the irritating secretions.

I have called attention to the fact that polypus is practically unknown before 15 years of age, not because suppuration does not occur before that age but because the sinuses are comparatively undeveloped before that time; the nasal chambers are much simpler and, therefore, drain much easier, and suppuration is oftener due to adenoids than to any other cause up to that time. The discharges from the nasal chambers of children are more mucus than pus, and we seldom see the clear pus of sinus disease issuing from their noses, which is so common in adult life.

Polypus causes a variety of disturbances both locally and of the general system. The gravest of these are asthma and hay fever, which follow up their unfortunate victims year after year and make life a burden to them. So common have I found polyps in asthma that I always feel a sense almost of personal injury when I run across a case in which they can not be demonstrated; for the relief and usually cure which follows their complete removal is so certain I feel as if deprived of part of my deserved gratitude and triumphs when they are not there to be removed.

DIAGNOSIS.

Of the diagnosis I should not feel it necessary to speak if I had not so often seen mistakes made by good men who were fairly well versed in diseases of the nose, and even mistakes by men one had a right to expect better things from.

The glistening whitey gray of a polypus is like nothing else which is to be found in the nasal chamber unless it might happen to be a smooth pledget of cotton covered by a thick flow of mucus. It is never so pink as the turbinates, and to the probe it has a soft elastic, slippery feeling which is quite *sui generis*. To examine a nostril satisfactorily for nasal polyps the surfaces need to be cocainized and adrenalin chlorid applied in order to give access to as much of the nasal chamber as possible and then a very flexible probe used in order to accurately locate the point of origin of each growth.

When this has been done the polypi stand out glistening white and can not in any case be mistaken. There is a condition of the lower turbinates which superficially resembles polypus, but if it is remembered that polypi do not occur on this part of the nose, and if the method outlined above is followed, no confusion need arise. In this class of cases the lower turbinate is unusually anemic and looks water soaked, but under the adrenalin it shrinks and tightly hugs the bone, while polypus is not much, if any, altered in size or appearance.

Beside the disorders already named, there is a peculiar bronchial reflex cough which resists all ordinary remedies and which is akin to the like cough occurring in children who suffer from adenoids. This cough resists all treatment except removal of the polyps, when it usually abruptly subsides.

The prognosis as regards life is not especially unfavorable, but many an unhappy victim of asthma would almost welcome death as a relief from the suffering when in the midst of a paroxysm. It is quite generally believed that polypus may undergo sarcomatous degeneration, but the most that can be said is "not proven."

TREATMENT.

I come now to the subject of treatment, and to my way of thinking there is but one method.

Having located the base of the growth with the aid of a head mirror and a good light, encircle the growth in the loop of a good snare, and with the cold wire cut it off as near the base as possible. It is sometimes necessary to cut through the middle of a polyp in order to secure room to work, but with a proper snare this is rarely necessary, as the loop can be insinuated up to the base in most cases and there is little or no hemorrhage excited. This is a distinct advantage, as it allows continuing work with slight interruption until the whole cavity is clear.

Adrenalin also prevents most of the bleeding and greatly facilitates the work. Working from below and from before backward the nose can usually be sufficiently cleared for fair respiration at a single sitting, and the patient experiences such relief as encourages him in continuing to the completion of the treatment.

Allowing three or four days to elapse after the first removal, on the second sitting one is often surprised to see the nose almost as full of polyps as at first: a number of them, which had been securely hidden in the recesses of the nose, coming down into sight as soon as pressure is removed. When all polyps have been removed which careful search with the flexible probe will reveal, if the patient is one who can be relied on to return for occasional examination, it is well to wait for developments to see if there is any return. But if there was a large number of the growths, especially of tiny ones all along the middle turbinate, and particularly if in the course of the removal you uncover a well of pus which flows out freely; or if the case is one in which there has been return one or more times after complete removal, it becomes necessary to resort to more radical measures.

Bosworth has said: "I can not think there is any condition which warrants removal of the middle turbinal for the cure of nasal polypus."

Had he done this as often as I have he would never have written thus, for in the kind of cases I have enumerated I have always found two or a dozen polyps in positions which were totally inaccessible until either the anterior or the whole turbinate had been amputated. No cure of asthma is to be expected so long as there is a single polyp remaining, and I hold it is better to do the harmless removal of a middle turbinate once in a while when it was not absolutely unavoidable than to err by allowing many patients to go uncured when failure lay in the undiscovered and, therefore, unrecovered polyp hidden behind or within a diseased middle turbinate.

From observation of a very large series of cases I have reached the conclusion that it is impossible to cure a case of polypus so long as there remains a suppurating sinus to pour its pus over the site of their growth or a diseased middle turbinate on which the growth can occur. I therefore always remove the whole middle turbinate in cases of recurrent polypus suffering from any reflex disease.

Of other methods than the cold snare I do not care to speak except to condemn them as inefficient, and as for cauterizing the stumps after removal, it is not needed if the underlying cause is recognized and removed, and if not then it can do nothing but harm.

In conclusion let me say: Nasal polypus is in effect the same thing as granulation tissue, being produced in the same way and by the same causes as granulations elsewhere; complete and permanent removal is necessary to the cure of various reflex disorders induced by their presence; obstructed sinuses filled with pus are most commonly the cause of failure to cure, and to relieve these and secure proper drainage removal of the middle turbinate is often required; and lastly, the middle turbinate requires removal in all cases of persistent recurrence on its body.

DISCUSSION.

DR. ROBERT C. MYLES, New York—The name "polypus" is very unfortunate, and to change it would be an advantage for those who come after us, especially in regard to treatment. Nearly all of our distinguished writers assert that this is a myxoma, but I think it has been proven beyond any doubt that it is not; it is not neoplastic but is simply an infiltration. Then we approach the idea of it being a mere dropsical condition. Admitting that, how does the dropsy occur? It may occur from several different sources, but usually it is due to the pressure of some inflammatory deposit on the vein. A polypus is only an enlarged mass which has occurred in this way. I think we spend a great deal of time unnecessarily digging around without removing the middle turbinate in many of these cases. In the removal of the middle turbinal in a great many cases I have never seen any very serious evil consequences.

DR. H. W. LOEB, St. Louis—Dr. Baker stated that the cold snare is the only efficient method of removal of polypi. Of course, the cold snare is highly efficient, but there are some other methods that are also of service. For instance, the electrocautery snare, with which I have removed 107 polypi at one sitting, should be considered efficient, at least to this extent. I agree that the middle turbinate must be eventually treated, and I meet the eventuation of treatment at the time I remove the polypi. I do not waste any time with the snares, either cold or hot, unless they are absolutely necessary, but I use the forceps and work as rapidly as possible. I think we must look on polypi as a surgical rather than a nasal condition. We do not waste time with a snare in taking off similar enlargements elsewhere.

DR. S. G. MINER, Detroit—I must take exception to Dr. Baker's statement that polypi are rare under the aged of 15; in Detroit we often find them under 12. The method of operation just described is not always satisfactory. After removing the polypi we will frequently find a great deal of granulation tissue under the middle turbinate and a thorough curettage of that part with the subsequent application of trichloroacetic acid is very advantageous. If the inflammation does not subside and there be any pressure from the lateral wall on the middle turbinate, then I think a turbinectomy is necessary. But I do not think a turbinectomy should immediately follow the removal of a polypus.

DR. C. M. COBB, Boston—This is a surgical condition and it is necessary to remove the tissue that is diseased. If the nasal polypi are an evidence that the sinus is diseased, which I believe is very often the case, then the granulation tissue in the infundibulum is also an evidence of disease. I want to take issue with Dr. Baker as to the positive association of sinus disease and adenoids. The sinus disease may be the cause of the adenoids and the removal of the adenoids may not suffice to cure the rhinitis. Indeed, I do not believe it will cure more than 50 per cent. of the cases.

DR. F. W. HILSCHER, Spokane, Wash.—I also look on this disease as a purely surgical one. I make the same preparation as Dr. Baker has described and then I attack it with whatever instrument is at hand. Sometimes I use the snare;

frequently I do not. Often I reach in with the alligator jaw forceps and cut it off with a curved scissors and then with Dr. Myles' beautiful trimming forceps I trim it off very closely, frequently including the point from which it grows, and then cauterize the base with the electrocautery.

DR. CHARLES H. BAKER, Bay City, Mich.—I do not consider any method efficient that takes the time and fussing that the cautery takes, compared with the time the cold snare requires. We all know how very flexible the wire of the galvanocautery is and it is often impossible to insert the wire in these cases. A wire of some resilience must be used or we will be forced to waste time and do poor work by what I have called fussing. The polypus is a symptom, I believe, of a previous purulent inflammation in the nose. Detroit is rather uniquely situated, and it may be that polypi occur more frequently there in young individuals, but I have found mistakes made in cases that have come from Detroit, and they were not the kind that Dr. Myles referred to that may have a polypus in Buffalo but not in Pittsburg.

THE WINDOW RESECTION OPERATION

FOR THE CORRECTION OF DEFLECTIONS OF THE
NASAL SEPTUM.*

OTTO T. FREER, M.D.
CHICAGO.

Since publishing my first paper on this subject in March, 1902,¹ I have added 36 operations to the 15 reported at that time, making a total of 51.² Of these patients, 31 were young adults, 10 people of middle age and 10 from 12 to 17 years old. There were 43 men and 8 women. In 25 cases the deviation was in the left naris, in 23 in the right, and in 3 in both, the deflection being sigmoid anteroposteriorly; 7 deviations followed the entire septum from the tip of the cartilage almost to the posterior border of the vomer; 19 deflections were purely cartilaginous; 28 required removal of both bone and cartilage; 4 were entirely or mainly bony; 23 were of even normal thickness, while 4 were evenly thin, the cartilage being as thin as a visiting card; 12 had a thick bony base, which projected upward and usually strongly outward toward the lower turbinal. In 13 cases the cartilage was thick, averaging one-fourth of an inch through. On 3 deviations only were there exostoses and ecchondroses. In 2 there was absence of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. The Correction of Deflections of the Nasal Septum with a Minimum of Traumatism, *THE JOURNAL A. M. A.*, March 8, 1902.

2. APPENDUM. Nov. 12, 1903.—Since writing this article I have performed the operation in 9 additional cases, making a total of 60. Of these 9, 7 were angular deflection, 1 bowed and 1 crest-shaped. In 5 of these the obstruction in the nostril was complete, or nearly so; 4 deviations were cartilaginous, 4 osseocartilaginous, and 1 bony; 2 deflections were in the right naris. Two of the operations were performed on children aged 8 and 10 respectively. Combined local and chloroform anesthesia was used, the general anesthesia being carried only far enough to keep the child unconscious of its surroundings, so that it did not even reach the stage of half narcosis. The local anesthesia entirely controlled the pain, the chloroform being employed merely to keep the child quiet. The slight flow of blood was readily swabbed away and the little that flowed back into the pharynx was swallowed, as the superficial general narcosis did not abolish the reflexes. The use of the Kirstein light made the operation in the recumbent posture easy and a number of the later operations on adults have been done in this way for the comfort of the patient. One small perforation occurred. It was only of pinhead size, and was made in operating on a septum that had been subjected to operations by three rhinologists, the resulting cicatrices making the dissection of the mucous membrane very difficult. All of the cases recovered without complications and with perfect patency in the obstructed nostril. The new nasal speculum of Monosmith (described in *THE JOURNAL A. M. A.*, April 4, 1903, page 916) has proven itself very useful as an adjunct to the retractors because the vertical opening of its blades lifts the nasal tip and leaves the operative field unobstructed.

cartilage over a small area, the mucous coverings being in contact. Thirty-seven deflections were of the type called angular, while but 6 were bowed, 5 atypical and 3 sigmoid. Thirteen presented a dislocation of the anterior inferior angle of the quadrangular cartilage from the cutaneous septum so that the anterior end of the cartilage lay across both nostrils. Six deviations seemed to be large exostoses, but proved to be hollow, bony deflections. Thirty-six deflections began in or near the front of the naris, while 15 began in or near the bone. There were 14 large bony deviations reaching nearly to the choanae. In 5 cases the cartilage was removed extensively from the anterior inferior angle of the quadrangular cartilage to the bony septum.

The operations caused 9 perforations of the septum, 7 of about the size of a pea, and 2 as large as a 10-cent piece. They were all more than an inch back in the naris, and none caused the patients annoyance. Six of the perforations were made in the first 15 operations. Since then improved instruments and greater experience have reduced the number to 3 perforations in 36 cases. Secondary hemorrhage occurred in 2 cases, in one two hours after the operation, and in the other in one week. The bleeding in both cases was severe, but not dangerous.

This summary shows that a number of people at the end of childhood endured the operation, and in none of my cases was unusual fortitude required. A medical student told me that he suffered less from the removal of his bony and cartilaginous deflection than during dental operations lasting as long, and patients may be assured that the operation is but slightly painful. The cutting away of bone and cartilage is readily borne as long as no attempt is made to break them over. In my series the cartilaginous deflections were outnumbered by those containing bone in the proportion of 19 to 32. Classed with the latter are only those needing actual operation on the bone, and usually it was difficult to tell whether there would be need of this until removal of the cartilaginous part of the deflection exposed the bone to view. A merit of the resection operation is the possibility of clearing the nostril at one sitting of obstructing bone, as well as cartilage. In the 13 thick cartilaginous deflections mere straightening of these would have given but partial relief, as the thickness of the septum itself in these cases formed an obstruction. An advantage of the resection method is that at the point of greatest narrowing of the naris it creates the utmost possible space by not only straightening the septum, but reducing its thickness to that of the two layers of mucosa. This fact very often makes extensive resections unnecessary, as a small window in the cartilage or bone suffices to free the naris completely.

Exostoses and ecchondroses rarely—in but 3 of my cases—complicated the deflection which was, as a rule, of nearly even thickness. The skeletonizing of the deflection in the resection method gives a perfect insight into the structure of the septum, and many deviations that at first seem to be exostoses, or form their base, prove to be evenly hollow bony deflections when entered. Their concavity lies far back in the naris and may be invisible, so that should the surgeon saw off the supposed crest he will find that he has made a large perforation.

The angular far outnumbered the bowed deflections, and no matter what their form in the cartilage, the bony portion of the deviations nearly all had a typical shape, that of a wedge-shaped projection ascending upward and backward in the direction of the upper border of the vomer. The inferior wall of this hollow wedge an-

teriorly often lay so close to the nasal floor that it was liable to be overlooked in the operation, while in most cases posteriorly the deflection rose to above the level of the inferior meatus so that it pressed against the upper part of the lower turbinal and filled the middle meatus.

I found great variations in the thickness of the mucous membrane covering the septum. In some cases thick mucosa included cartilage no thicker than an egg shell, and in one case the mucous membrane proved to be the main obstruction to breathing, as it was three-sixteenths of an inch through. In other instances it was so thin that instruments could be seen underneath it.

In no case operated on, even when the deviation was removed from the anterior tip of the cartilage far back into the bone, was there any damage to the nasal profile, but where the nasal tip had a twist to one side this deformity was often lessened or removed. This proves that the external nose does not need the support of the septum, but that its own cartilages maintain its shape.

The operation as performed now by me is in principle unaltered, but many changes in the details have led me to describe it again. The patient is seated in a chair with an adjustable head-rest, so fixed that it advances his head within easy reach of the surgeon. The light preferred by me is the Kirstein electric headlight, as it makes the operator independent of a fixed light for reflection and because its rays are parallel to those entering the eye; hence it lights the naris to its deepest part. It permits the surgeon to operate with the patient lying down should he need to be placed on a table if he feel faint while sitting. It also makes operations on children in general anesthesia possible.

For local anesthesia I still use powdered cocain, applied to both sides of the deflection with a small damp swab, and toxic symptoms of consequence have never resulted from the drug. Faintness occurred in only 4 cases during the operation; happened early in its progress, passed off long before its end and was due to fear rather than cocain, as the use of this was continued. In most cases, adrenalin made the field of operation bloodless or nearly so, but often failed to act. Applied to bleeding wounds it was not as good a hemostatic as a fresh application of cocain. Before the operation the vibrissæ are cut away and the nasal vestibule is cleaned with a damp swab. In deviations far forward, the ordinary nasal specula can not be used, and instead an assistant lifts the rim of the nostril in the desired direction with a flat retractor or two retractors. For operations further back the regular specula are suitable. Blood is wiped away with cotton swabs on pointed applicators, numerous to avoid delay, for, though the bleeding is never great, a little blood obscures the field of operation.

The first incision cuts through the mucosa only, along the vertical angle or summit of the cartilaginous deflection, which is usually vertical in direction, but may extend obliquely upward and backward. The vertical incision is joined by a horizontal one beginning about three-fourths of an inch behind it and carried along the bottom of the septum forward to beyond the beginning of the deflection. In this way an anterior and short posterior flap are outlined to meet at the vertical crest of the deflection, the incision forming an inverted T (Fig. 1). These cuts are made with knives having small blades with half-round edges (Fig. 8, B, C, D). The blades are placed straight on the shank or at an angle on the flat to cut vertically deep in the naris and their

small size permits them to enter narrow spaces. It is important to outline an anterior flap large enough to completely uncover the cartilage of the deviation in front and above, and to be caught with and held out of the way by the retractor, or by a light catch forceps.

The mucous membrane can not always be separated from the cartilage by blunt dissection, and is usually most adherent in front. Where it is firmly attached it must be dissected off, and for this I use two small, flat knives with rounded, paddle-shaped, thin, sharp blades. One of these is bent on the flat in order to dissect from the vertical incision forward (Fig. 8, E—I.)

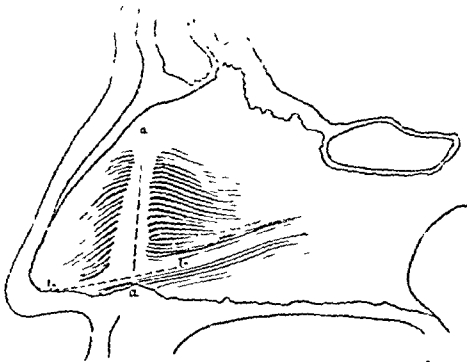


Fig. 1.—Lateral view of nasal septum with angular deflection. Dotted line a-a, vertical. b-b, horizontal incision through the mucous membrane.

The anterior flap should be detached to the limit of the outlining incisions, fully uncovering the front of the deflection. The posterior flap may also need to be dissected off for some distance back, but usually may be lifted from its attachment with a thin, dull-edged, steel dental spatula (Figure 8, M.) The separation should be carried under the mucosa as far back as the deflection reaches, behind the limit of the posterior flap. This detaches the mucosa completely from the convex side of the deflection, leaving

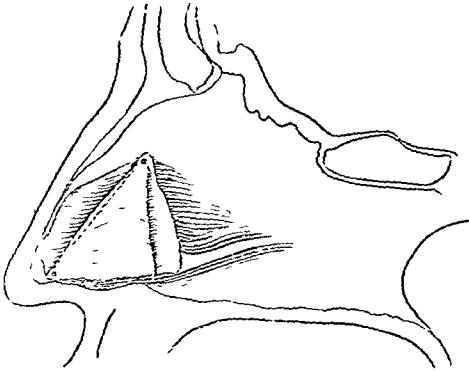


Fig. 2.—The same as Fig. 1 showing the anterior and posterior mucous membrane flaps reflected, exposing cartilage of deflection to view. a-a, dotted line showing slit cut through cartilage at front of deflection. The separation of the mucosa from its attachment is continued as far as the limits of the shaded area, showing the extent of the deflection.

it only attached above and below, behind the limit of the horizontal incision. It may be necessary to continue the latter to the end of the deflection where this extends far back, and thus sever the mucous membrane from its attachment to the bottom of the septum along the whole length of the deflection in order to get room to work in. It is better to avoid this, however, as the mucosa applies itself much better during healing if left attached behind as much as possible at the bottom. The object in creating a short posterior flap by continuing

the horizontal cut back of the vertical one is to gain room for manipulation.

When the entire deviation on the convex side is bared of mucosa a vertical slit is made through the cartilage in front of the beginning of the deflection, underneath the anterior flap, along its anterior attachment (Fig. 2). The cut must not pierce the mucous membrane in the opposite nostril. If it be made within, instead of in front of the anterior part of the deflection, that is, too far back, a portion of the deviation will be left to obstruct the foremost part of the nostril. This occurs most easily where the tip of the quadrangular cartilage lies across both nostrils as it usually does in deflections far forward. If not removed in the first place the obstructing strip of cartilage remaining in front has to be dissected out from behind toward the operator. This is so difficult that it may have to be removed from the other nostril by dissection at a later operation.

The anterior vertical slit in the cartilage is made with a round-edged knife (Fig. 8, D, or B, C), as the sharp-pointed knife I used formerly is prone to

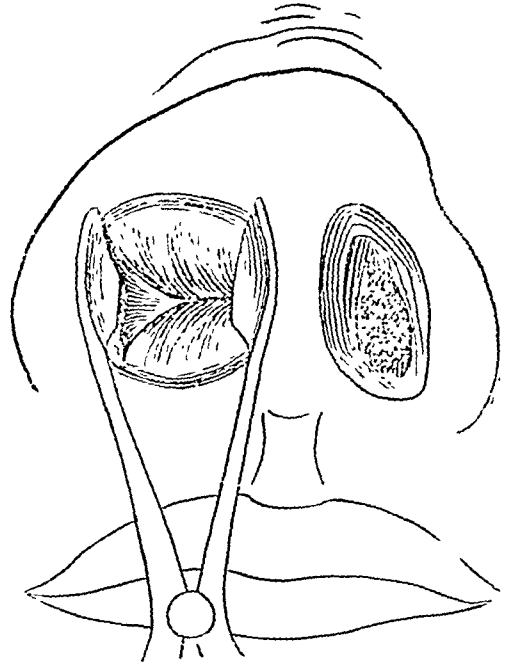


Fig. 3.—View of the concavity of a deflection.

prick through the opposite mucosa. The left little finger is introduced into the nostril opposite the deflection in order to feel the edge of the knife before it can cut through the mucous membrane after severing the cartilage. Should it make a little cut through the mucosa this will be closed when the anterior flap is replaced. Operating in the right naris is harder than in the left, as it is necessary to cross hands in order to place the little finger of the left hand in the left nostril, unless one can use the left hand for cutting.

The dental spatula (Fig. 8, M) is now pushed through the slit and under the cartilage, between it and the opposite mucosa, which it separates over the entire extent of the hollow of the deflection by severing its adherence submucously. The instrument may be watched from the naris of the concavity as it moves beneath the mucous membrane, and when this is completely lifted off the concavity appears effaced (Figs. 3 and 4). When the mucous membrane is too adherent punctures through it with the spatula occur when force is used to separate it. In these cases the posterior edge

of the severed cartilage in the slit should be seized with rat-toothed forceps, pulled outward and the mucosa of the concavity dissected from its attachment with the round, flat knives (Fig. 8, E, I), or sharpened dental spatula (Fig. 8, L) until a place is reached where the adherence is slight and the dull spatula may then be used again. If any mucous membrane remain attached it will tear through when the cartilage is removed, therefore it is important to lift all the mucosa from the concavity, especially at the thick bony base of the deflection where adhesion is greatest.

The deflection is now bare of covering on both sides or skeletonized. Ingals' pointed cartilage knife (Fig. 8, H) is now inserted in the slit and under the cartilage, passed to the back of the hollow of the deflection and with its point turned outward from the mucosa made to cut through the entire length of the cartilaginous deflection along its base. The deviated cartilage is now free at the bottom and in front, and to cut it away at the back and above it is firmly held with rat-toothed forceps, while one of the little sharp-pointed angular cartilage knives (Fig. 8, J, K) is passed under the cartilage to the very bottom of the pocket formed by the hollow of the deflection and its separated mucosa, its point also turned outward, away from the mucosa of

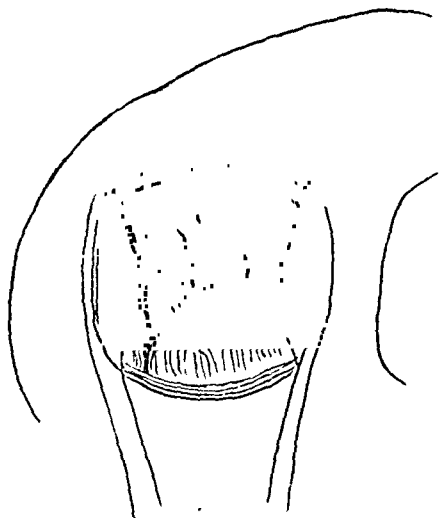


Fig. 4.—Same as Fig. 3, showing the disappearance of the concavity of the deflection from view after the mucous membrane has been separated from the cartilage through the slit made from the opposite nostril.

the concavity and the blade made to cut through the hindmost part of the cartilaginous deviation at one sweep from above downward (Fig. 5). The second little angular knife is passed in in the same way and made to cut through the limit of the deviation above from behind forward. In this way all or nearly all of the cartilaginous deflection may be removed entire, including the angle. For thick cartilage I use a pair of angular cartilage knives with longer blades (Fig. 8, F, G.).

After exsection of the piece of cartilage the inner surface of the mucosa of the concave side may be seen framed with white, cut edges of cartilage (Fig. 6). Remaining deviated portions of this are cut away with the little angular knives or the punch forceps of Gruenwald. All parts that jut out from above and keep the flaps from lying flat against the septum should be removed, and the base of the deviation, which usually projects upward and outward as a thick, partly bony ledge must be chiseled, gouged or trephined away or cut away with the punch forceps. The flaps may then be replaced if the deflection be purely cartilaginous and the operation is done; the turbinated bodies previously hidden by the deflection appear to view, the breathing through the

nostril is noiseless and often the posterior pharyngeal wall may be seen.

Though ablation of cartilaginous deflections usually takes but little time, is often surprisingly simple and hardly hurts at all, removal of bony deviations requires more patience and causes moderate pain. The Roe forceps used in my earlier work often caused much suffering, and there was uncertainty as to what it would accomplish. In the not rare cases where the quadrangular cartilage is unusually large and extends far back, and

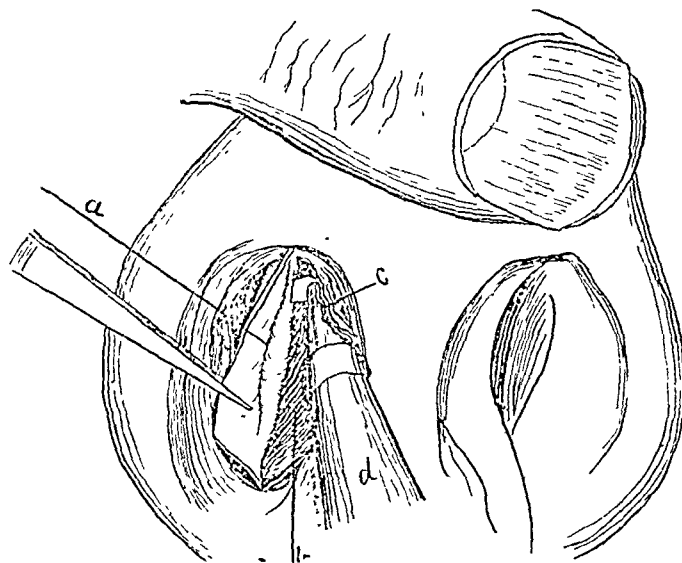


Fig. 5.—The cartilaginous deflection, including the vertical angle a, has been cut through at its base and in front and is being severed behind and above by the angular cartilage knives; b, inner surface of the mucosa of the concavity of the deflection; c, anterior flap folded out of the way; d, angular cartilage knife.

hence the septum is very elastic, the forceps often failed to fracture it, or it misplaced fragments and produced unwelcome prominences. Therefore, as I grew bolder in operating I discarded fracturing for the more precise method of cutting away the bone. I found that as long as I did not strain the septum by forcing it over I caused but little more pain when I cut the bone than when I cut cartilage. When

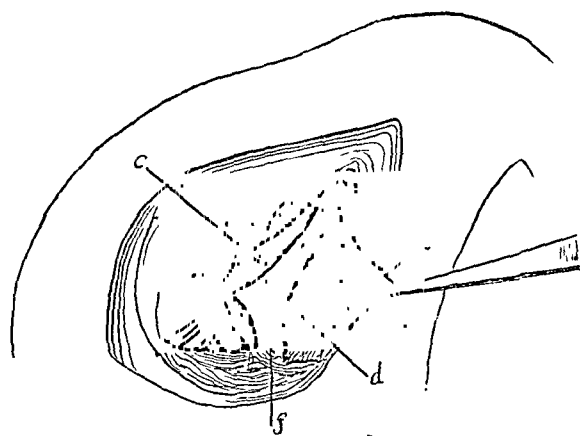


Fig. 6.—Remains of deflection, partly cartilaginous, but mainly bony, left after removal of major part of cartilaginous deflection. a, Anterior flap; b, anterior cut edge of cartilage; c, separated mucosa of convexity of deflection; d, inner surface of mucosa of concavity of deflection; e, inferior turbinal; f, bony base of deflection.

the bone is not too heavy it may be cut away piece by piece with the large Gruenwald forceps which follow it up between the two layers of the mucous membrane. Where the bone is too thick to cut through at the first bite it may be seized repeatedly with it until enough weakened in some place to punch through, or it may be prepared for cutting with forceps by short cuts into its substance with the chisel. After the

first piece is out the others cut through more easily. If the bone remaining at the base of the septum be too thick to cut away with the forceps or the gouge without forcible malleting the trephine should be used, driven by a strong, high-speed dental engine. In order to make sure that the trephine will bore into the bone without slipping at the start I use the Stacke gouge to start a chip and slip the trephine onto this as a guide. Once a core is cut out with the trephine the punch forceps usually readily trim off the rest of the bony deviation. If not, a second core may be cut out. I have employed the trephine in 17, or about one-third of the total number of my cases. Since I have obtained the later Gruenwald forceps with strong, large blades I have needed the trephine less, and this is an advantage, as the trephine causes more pain.

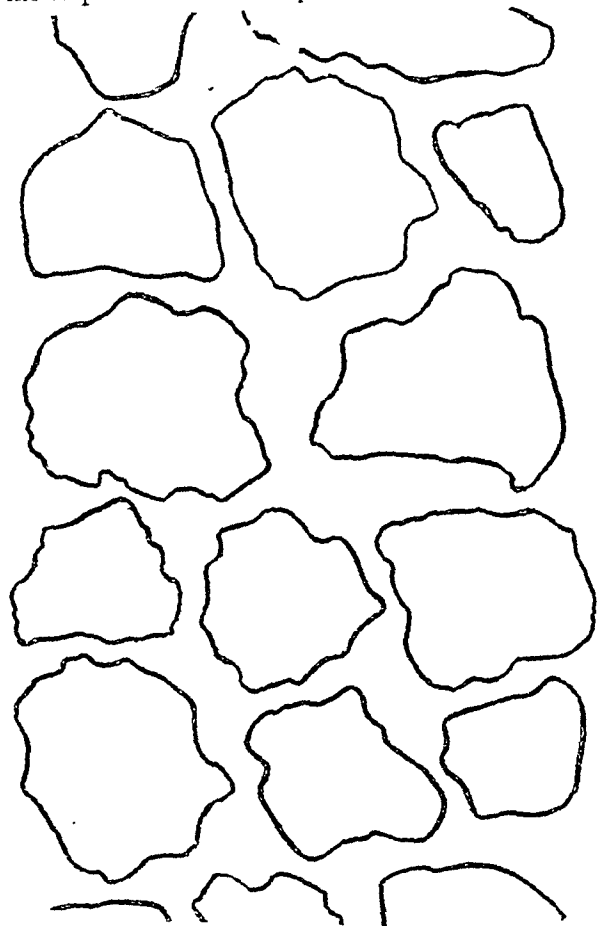


Fig. 7.—Outlines showing the amount of cartilage or cartilage and bone removed in a number of operations. (Actual size.)

In several of my cases the bony deviation extended back to near the posterior border of the vomer and so high up that it blocked the rear portion of the middle meatus, which must be cleared to give the patient the feeling of free respiration. The bony resection is not complete until the patient can breathe without stenoctic sound through the operated naris when the flaps have been replaced. One can not always avoid tearing the posterior flap on the convex side when the deflection extends far back, but all torn portions should be preserved.

Oozing of blood is usually greater in the bony part of the operation so that frequent swabbing causes delay.

Perforations do no permanent injury to the patient, but retard healing, as secretions lodge in them until the wounds are well. The nasal saw is not as well fitted for the bony part of the operation as the punch

forceps or trephine. Its use causes more pain, tears the flaps and removes the bone too superficially.

Bony deviations beginning far back are mistaken for exostoses by many operators who saw off the most projecting part with its covering of mucous membrane so that the piece removed frequently consists largely of the latter containing a thin crest of bone which is merely the apex of a deflection, as the saw often springs away from the septum and does not enter it deeply enough to cut away more. Prominences thus sawed off reform in great part when recovered with mucosa, as not enough bone is removed. In one of my cases the top of a deflection had been sawed away by another surgeon as an exostosis and the obstruction was completely reproduced. The resection operation gave radical relief. Crests and spurs nearly always, in my experience, rest on deflections of varying degree. Where the deflection is slight I think a better method than sawing off the crest or spur is to denude it and to gouge it out deeply, in the cartilaginous portion with the gouge and in the bony part with the trephine or burr. This will prevent its reforming. Where the deflection is of any consequence, however, it is better to excise both deflection and crest from the bottom as described, in order to avoid imperfect results.

Deflections beginning far back are partly or entirely bony and may be entered by means of a vertical slit in the cartilage in front of them, followed by separation of mucosa and resection, as other deflections.

The amount of cartilage and bone cut out in a number of my operations is shown in outline (Fig. 7), and proves how little ordinarily need be excised to give relief, but no harm is done where much is removed, as the tissue ablated is of no physiologic importance.

When the operation is finished the flaps of mucous membrane are smoothed down with a damp cotton swab and the nostril is packed with a strip of lint one-fourth to five-eighths of an inch wide, rubbed full of subnitrate of bismuth. The packing must be done evenly and gently from the bottom with forceps with smooth, slender blades. I do not use the metal guard mentioned in my first paper, but steady the flaps with rat-toothed forceps while packing. One of the perforations was caused by too tight packing with a strip too broad so that it bunched unevenly and forced its way through the intact mucous membrane. The secondary hemorrhage in one of the two cases resulted from too loose packing. Beyond these two cases the tampons have caused no trouble. It is not safe to dismiss a patient unless the operated nostril be evenly filled with lint, as bleeding may occur within an hour or two when the effect of the cocaine and adrenalin is gone. Sloughing of flaps I have never seen. In extensive resections it is sometimes well to support the bulging mucosa by a tampon in the other nostril. Bismuth tampons do not become putrid. As much of the strip as pulls out easily may be cut off daily until in about three to five days all of the packing is removed. If any of it catches on rough bone on the nasal floor it may be loosened by twisting the lint strip into a revolving rope.

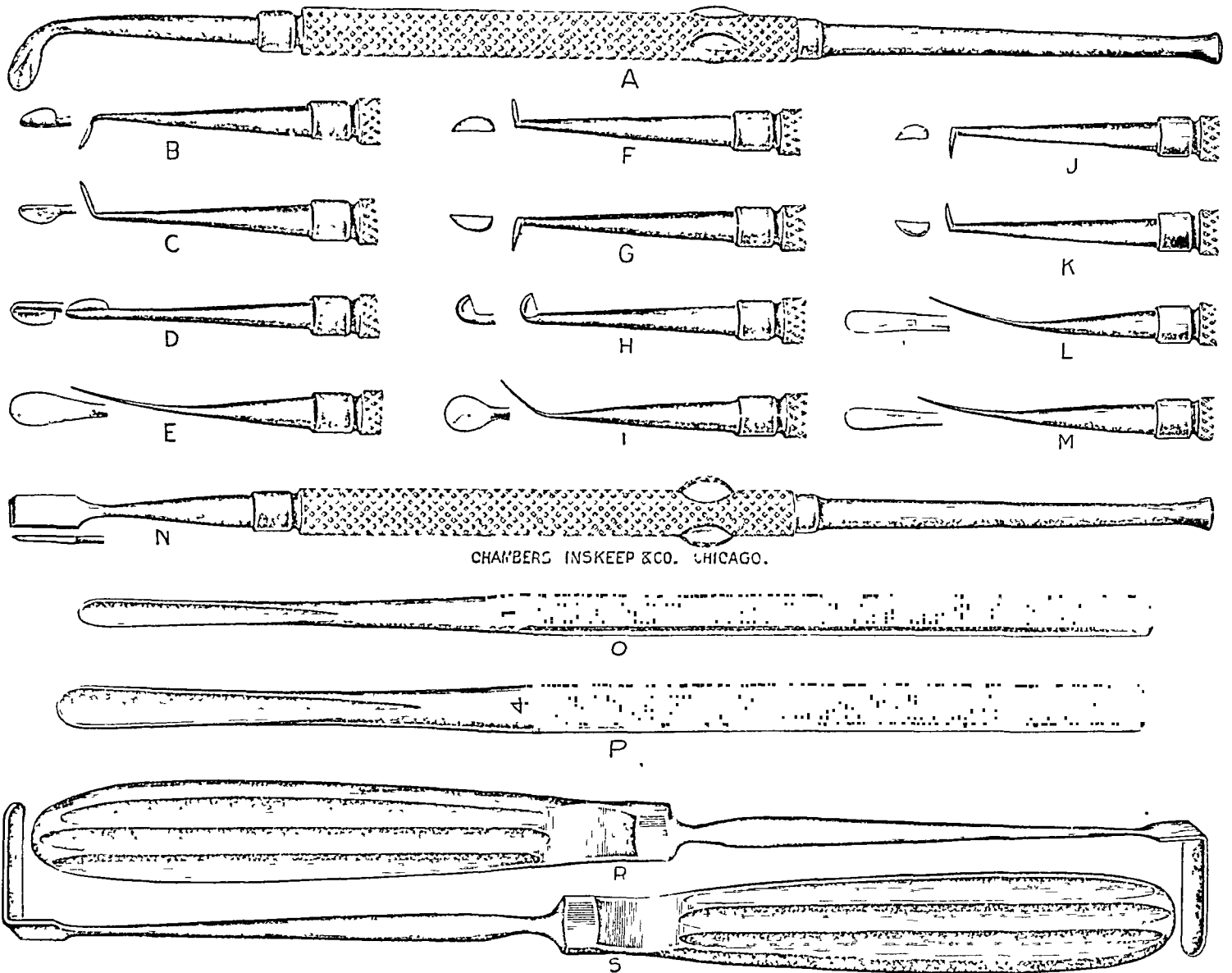
The reaction and pain after the operation are so slight that patients do not need to go to bed, but should not work for from three days to a week. Fever with supuration of the wound surfaces occurred in three cases. Both conditions subsided in a few days. In one of these patients a deflection of the perpendicular plate of the ethmoid bone, which caused distressing reflex symptoms by pressing into the right middle meatus in front, was

removed with permanent relief. No other complications than those mentioned occurred in my cases.

For after-treatment I have the patient spray his nose with normal salt solution and swab the nasal vestibule with an ointment of lanolin and vaselin to prevent crusting. For a week to six weeks after the operation the naris operated on is more or less obstructed by swelling, therefore the patient should be warned that for some time he will not breathe as well through the nose as he did when the operation was finished, but he may be assured of a perfect result, for in no case has the full capacity of the nostril failed to return when it was perfectly cleared at the time of the operation.

When bone needs removal the operation is sometimes

two cases mentioned were among my first, and in one, through inexperience, I did not remove the obstructing bone completely. The second patient was a girl of 14 who had a bowed deviation of the entire septum of extreme degree. The operation entirely cleared the naris, but in the course of a year, as the septum grew in size with the girl's growth, the obstruction was partly reproduced. Such of my other patients as I examined long after the operation had even more patency than some weeks after it. I have not found proof of the reproduction of the removed hyaline cartilage, but the septum at the site of the resection becomes firm in some cases, while in others the window is filled with a tough strong partition.



Ffg. 8.—A, round bladed knife, bent on edge, for dissection of mucous membrane from bony base of deflection; B and C, half-round bladed angular knives for vertical incision in mucous membrane and first cut in cartilage, when deflection is far back in the naris; D, half-round bladed straight knife for vertical incision in mucous membrane and first cut in cartilage when the deflection is nearer the front; E, flat, round-bladed dissecting knife; I, angular round-bladed dissecting knife; F, G, J and K, sharp pointed, angular cartilage knives for cutting through back and upper part of cartilaginous deflection; H, Ingals' submucous cartilage knife; M, dull edged dental spatula for uplifting of mucosa; L, sharp-edged dental spatula for dissecting up mucosa in concavity; N, Chisel; O and P, gouges; R and S, retractors for holding nostril open.

long, from an hour to two hours, but the patient suffers mainly the discomfort of tedious sitting while the surgeon's loss of time is made up by the simplicity of the after-treatment.

The lumen of the opposite naris remains unchanged. It is not narrowed by crowding of redundant portions of the septum into the other naris as in fracturing methods.

The results in all of my cases but two were perfect, the obstructed nostril becoming completely clear. The

In one of my last cases I used a small guarded dental circular saw driven by the dental engine. It makes vertical cuts through the bone where it is not over one-sixteenth of an inch thick, with great ease, and these cuts may be joined by horizontal ones from in front with the punch forceps to remove a piece of some size.

Fuller experience with the resection operation for septal deflections has given me confidence that there is no variety of deviation of the septum it can not remove in a neat and surgical manner without injury to the

patient. Even anteroposterior sigmoid deflections, blocking both nares, may be dissected out from the same nostril in one operation, including both bends. Dr. Charles H. Knight says that "such a sweeping operation as the window resection is only justified in extreme cases," giving the impression that the procedure is formidable. None of the operators has found it so. It is not "trying for the patient," and the after-effects are slight.

E. F. Ingals, in 1883, established the method of partial resection of septal deflections. In 1886, Krieg removed the entire deflection by his window resection. Without knowledge of Krieg's or Boenninghaus' later article, I developed my method of total exsection of deflections, so that my instrumentarium and technic are original and I have improved them as my work progressed. According to the needs shown by my operations I shaped the blades of the knives, which I made myself, and my present instruments are far better adapted to the work than the cruder ones described in my first paper. I can assure those who have found the operation tedious and difficult that by the use of the exact counterpart of the instruments (Fig. 8) which I use now, especially the knives, the operation may be done in a reasonable and often a short time and with a precision and ease much in advance of what was possible for a reader following my first paper. I hope that others will still further perfect the technic of this operation, which is so certain in its results and inflicts such slight injury on the patient.

288 E. Huron Street.

DISCUSSION.

DR. O. JOACHIM, New Orleans—The essayist has undoubtedly operated on cases that had been unsuccessfully operated on by other physicians. I wish to know how he handles such cases, particularly those of cartilaginous deviations which have been unsuccessfully treated and in which cicatricial covering of the cartilage has taken place. How does he handle the cicatricial tissue?

DR. O. T. FREER—As to those cases in which the mucous membrane is bound down by cicatricial tissue after the Asch operation, two Asch operations and one exostosis have given me opportunity to try the treatment of those cases. In two of the cases I avoided perforation in spite of the fact that there had been cicatrices. In one case there was an unavoidable perforation.

DR. J. F. BARNHILL, Indianapolis—We find the nasal septum deformed in so many ways that it seems to me probable that no one operation could ever prove sufficient for all, and I presume Dr. Freer does not claim that his method would be satisfactory in all cases.

DR. O. T. FREER—I believe this operation is suitable for all cases.

DR. J. F. BARNHILL—I have seen cases in which only a very short time was necessary to set the septum into a new and better position by following the Gleason method, and I should not like to discard this method in such cases, because of its certainty of cure and ease of manipulation. After its performance the reaction is practically absent, and the pain is so slight that it seems almost an ideal operation. The array of instruments shown by Dr. Freer seems rather formidable, and would lead one to the belief that the operation is very complicated. Are most of these instruments required in doing the operation after the method described?

DR. SARGENT F. SNOW, Syracuse, N. Y.—I arise to commend, perhaps, not the special method, but the proposition to resect portions of the septum in certain cases. I am not ready to use the Doctor's method exactly, for I have a method of my own that necessitates dissecting up the membrane only on one side, but it is perfectly practical to resect portions of the septum in selected cases, and Dr. Freer has opened up an important line of thought.

DR. GEORGE E. SHAMBAUGH, Chicago—I saw one of Dr. Freer's cases one month and another one week after the operation, and both were entirely successful.

DR. B. R. SHURLY, Detroit—Is Dr. Freer familiar with the work of Dr. Menzel of Vienna? His technic is largely the same, only it has the additional advantage of suturing the flap after the incisions. The flap is held back by a suture passed over the ear. The operation is completed by sewing down the flap dissected on the lower border.

DR. HENRY GRADLE, Chicago—I would like to confirm Dr. Freer's statements. My own experience in this operation has not been as large as Dr. Freer's because nasal work is only a part of my work. However, my own limited experience confirms the good ultimate results of which he speaks. The operation, however, is not an easy one. It is difficult to save the reflected mucous membrane on either side. After one has done the operation a few times it becomes easier.

DR. J. F. HILL, Memphis—I have had a number of cases in which there was a bony enlargement; it is very difficult to get rid of them, and the suggestions of the essayist seem very practicable. As to the cartilaginous portion of the septum, I don't want anything better than the Asch operation. The breaking up of the septum I do not think is practicable.

DR. OTTO T. FREER—Dr. Barnhill considers my instruments numerous. The reason for this is that many of them are little knives whose blades have varying shapes and attachments to their shanks to enable them to move in the proper directions on the field of operation, which all must reach by the same narrow passage—the nostril. There are 12 of these little knives; 3 forms are represented twice, as rights and lefts for each nostril. Their simple form and cheapness make up for their number. As in Dr. Myles' ethmoid work, a number of instruments is needed with slight change in shape, and I think this is true of many exact operations in narrow places. The Gleason and Asch operations possess the fault in common that they depend on fracturing to complete the work. This means more violence to the patient than by cutting methods, and uncertainty as to the result. The fracturing, if in bone, may create fissures that take dangerous directions. A double sphenoidal suppuration that I have seen follow an Asch operation seemed to me due to a fissuring fracture. Gleason himself advises fracture of the neck of his flap high up, if possible in the bone. From his description he must mean the perpendicular plate of the ethmoid bone, which I think it dangerous to break, considering its connection with the cribriform plate. A number of operators has spoken to me about the tendency to recurrence of the deviation after the fracturing operations. None seemed to feel sure of the perfection of the ultimate result. Fetterolf, in commenting on the Asch and Gleason operations, mentions the tendency to recurrence of the deformity in spite of tubes and pressure, though at the time of operation the result seemed ideal. I have never found suturing necessary, and it would needlessly prolong the operation. In operations on the extreme anterior end of the septum I have used a stitch or two, but they may be dispensed with even here. The credit for first establishing the principles of the complete window resection operation is undoubtedly Krieg's, and prior to his work Ingals describes the first partial resection of the cartilage. Doubtless Dr. Shurly has seen Menzel operate according to the description of the operation by Krieg and Boenninghaus. My methods of performance, especially the rapid exsection of the whole cartilaginous deviation by properly made knives instead of forceps or scissors, are original. The instruments I now use for separation of the mucosa of the concavity from its attachment, the round flat-bladed knives and the long sharp and blunt spatulae, have shortened the cartilaginous part of the work very much. I do not expect the resection operation to supplant that of Asch. The latter will always be resorted to by the general surgeon who enters special fields without special skill, for the surgeon sins against us far more than the cautious general practitioner, anxious for his patient's welfare. Made bold by successful work in major operations, and a sense of superiority due to the cus-

tom which exalts surgery above the other branches of medicine, the busy general operator is apt to enter fields that belong to the specialties and to do some rather rough work there. While the resection operation will not displace easier methods, I think it should be the operation for the rhinologist, whose neat, exact surgery in the nose should distinguish him from those lacking his special skill.

GENERAL SURGICAL ANESTHESIA.*

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EL PASO, TEXAS.

In the light of our present knowledge of practical anesthesia, it is not justifiable to employ any one anesthetic exclusively. The safest anesthesia depends on (1) the choice of the anesthetic best adapted to the individual case; (2) the technic of preparation for and administration of the anesthetic, and (3) a skilful anesthetizer. In a considerable proportion of operative cases the life of the patient depends on the proper choice of the anesthetic and the management of the anesthesia. The recent advances in our knowledge of local and neuroregional anesthesia have materially narrowed the field of general anesthesia.

Almost every kind of operation has been attempted, and more or less successfully performed, under local or neuroregional anesthesia. However, the mere fact that an operation can be performed under local or regional anesthesia is not sufficient justification to do it. The shock to some individuals from even trivial operations under local anesthesia is greater than that produced by a properly selected and administered general anesthetic. This is particularly true in some cases of heart disease, as well as in neurotics. It has been found also that postoperative complications occur fully as often after local as after general anesthesia. That, as a rule, a surgeon can do better work under general than under local anesthesia, there can be no question. Nor can there be much doubt that many of the postoperative complications (septic embolism, etc.) after local anesthesia are due to incomplete operating—unfinished work. In children the local method usually is inapplicable. Lastly, the time of the surgeon and the tax on his vitality deserve some consideration. It is not justifiable for a surgeon to fritter away his time on one or two operations under local anesthesia when he might be doing five or six under general anesthesia, with little or no more danger to the patients.

The general anesthetics which deserve special consideration are: ether, chloroform, nitrous oxid, ethyl chlorid, ethyl bromid and pental.

ETHER.

Physiologic Action.—Ether is primarily a diffusible stimulant, like alcohol in its effects. These effects are more quickly produced and more transitory than those of alcohol. It increases arterial tension and acts as a cardiac stimulant, the heart continuing to beat after failure of respiration, as a rule. On the nervous system it acts as a paralyzant, affecting, first, the cerebrum; next the cerebellum; then the sensory, and later the motor functions of the spinal cord; then the sensory centers in the medulla oblongata; and, finally, the motor centers in the medulla.

Ether is eliminated chiefly by the lungs and kidneys unchanged, and, to some extent, by the liver and skin.

Postanesthetic Effects.—By this term is meant the conditions which become manifest from the time of awakening from the anesthesia until recovery or death.

Blood.—The hemoglobin percentage is practically always lowered by ether, which means that the oxygen-carrying capacity of the erythrocytes is reduced. John Chalmers Da Costa and Frederick J. Kaltefleiter¹ studied the blood changes induced by the administration of ether in fifty cases. The average count of erythrocytes before operation was 143,360 less per cubic millimeter than after operation. This was undoubtedly due mostly to the blood concentration caused by preparatory treatment (hot bath, active purgation, withholding all food and liquid for some hours preceding operation) and to sweating during anesthesia. The hemoglobin percentage was apparently increased in nineteen cases—the average gain being 8.05 per cent.—and decreased in twenty-eight cases—an average of 7.25 per cent. The average hemoglobin percentage in all the cases preceding anesthesia was 89; the average percentage following anesthesia was 86, showing an average loss of 3 per cent. The color index was reduced an average of over 8 per cent. The average gain in the number of leucocytes per cubic millimeter after anesthesia was 4,586. It is altogether probable that the apparent gain in hemoglobin in nineteen of the cases was due to the blood concentration, and that the whole amount of hemoglobin was reduced in every case.

Kidneys.—There is a difference of opinion as to the effect of ether on the kidneys, but the consensus is that, while it causes more or less irritation during the administration, this effect is of short duration in the kidney not seriously diseased.

By the administration of methylene-blue, it has been demonstrated that ether diminishes the permeability of the kidneys, and it is quite probable that toxic substances are eliminated less rapidly after ether narcosis than occurs with kidneys unaffected by ether.

Clinical experience along this line is conflicting. In a former article² I noted that albumin was found in 6 per cent. of 1,500 cases after ether narcosis, where none had been present before. Casts, hyaline, granular and epithelial, were found in a large proportion of the cases, unaccompanied by albumin. The casts and albumin disappeared rapidly. Wunderlich found that albuminuria and casts may be caused by ether, and that both when present before are increased by ether. According to Carl Beck of New York, out of 300 non-albuminuric ether cases 9 per cent. subsequently had distinct albuminuria. Trieber and Roux examined several hundred cases and failed to find albuminuria in any. Körte found albuminuria in 1 per cent. of 600 cases, and Butler once in 500 cases. Robert F. Weir³ believes that ether has no marked effect upon healthy kidneys, that it is safe in slight kidney disease, and that circulatory disturbance which may arise in the kidneys quickly subsides. Leppman,⁴ after an experimental research, confirms the conclusions of Lengemann and others that ether has no special degenerative action on the healthy kidneys. At any rate, such changes occur very seldom and only to a slight degree. The same may be said regarding the liver. I have records of 100 cases where the urine was tested before and after etherization. In one of these a trace of albumin was found after anesthesia where

1. *Annals of Surgery*, September, 1901, vol. xxxiv, p. 329.

2. *Medicine*, November and December, 1899.

3. *New York Med. Jour.*, Nov. 16, 1895.

4. *Mittheilungen aus den Grenzgebieten der Med. und Chirurgie*, 1899, Bd. iv, Heft. 1 (quoted by Joseph C. Bloodgood, *Prog. Medicine*, December, 1901).

* Author's abstract of a paper read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

there was none before. In no case out of several hundred ether anesthetics was there any noticeable post-anesthetic renal trouble. In my judgment, practically all of the especially unpleasant effects of ether on the kidneys have been due to careless selection of cases or bad technic. Cases of anuria have followed ether narcosis in persons suffering from chronic nephritis. In such cases general anesthesia is contraindicated. In advanced nephritis local anesthesia should be employed in preference to general, but if a general anesthetic must be given, nitrous oxid or ether are probably the safest of any. Much depends on the management of the case before, during and after the anesthesia.

Respiratory Tract.—Ether is distinctly irritating to the membrane of this tract and markedly increases the secretion of mucus, the degree of irritation depending much on the technic of administration.

Lung edema is present during the administration of ether and for several hours after, and it increases the possibility of hypostatic and aspiration pneumonias. The danger of aspiration pneumonia is greater where there are suppurative lesions in the mouth and pharynx.

The cases of lung complication following local anesthesia demonstrate that the nature and extent of the operation, especially celiotomies and operations on the mouth, neck and thoracic cavity, contribute to the production of these complications.

Cardiovascular System.—Ether causes a temporary rise in the carotid blood-pressure, followed by a moderate and gradual fall. The capillaries are dilated; the vascular tension increased. It produces no marked degenerative changes in the heart.

CHLOROFORM.

Physiologic Action.—After a brief period of stimulation it acts as a sedative and, in overdose, as a cardiac poison. It was demonstrated by Prof. John A. Mac-William of Aberdeen that, even when slowly inhaled in moderate quantities and with a good admixture of air, chloroform causes an appreciable dilation of the heart.

Chloroform is eliminated chiefly in the form of chlorids by the kidneys; about a third is excreted as chloroform by the lungs and kidneys. It may also be found in the milk of nursing women and in the fetal blood. Owing to its destructive action on the erythrocytes it produces hemoglobinuria and bilirubinuria. As demonstrated by K. Buedinger,⁵ chloroform elimination continues for several days after administration. He found it in the sputa as much as 5 days after administration. Much mucous secretion means slow elimination, the chloroform evidently combining with the mucus.

POSTANESTHETIC EFFECTS.

Blood.—There is little room for doubt that chloroform combines with the erythrocytes, causing death of a considerable proportion of them, and marked lessening of the hemoglobin—the oxygen-carrying element. In 1890, Mikulicz noted that the administration of chloroform may reduce the hemoglobin from 5 to 10 per cent. In 1893, Garrett and Oliver concluded, as a result of experiments, that anesthetics, particularly chloroform, deoxidize the blood and the tissues, thus producing malnutrition and the formation of quantities of waste products, the elimination of which causes a severe, and possibly a fatal, strain upon the excretory glands.

Kidneys and Liver.—Experiments on healthy animals and autopsies on man prove that chloroform produces fatty degeneration of the kidneys and liver. The experiments of Thompson and Kemp apparently indicate that the immediate effects on healthy kidneys are slight, as albuminuria when present during narcosis was slight, and the secretion of urine continued up to the last moment of life. Fränkel called attention to the fact that chloroform sometimes gives rise to fatty changes in the kidneys and liver from which death may result. Wunderlich found, from investigation in 125 cases, that albumin when present was not increased by chloroform, but that albuminuria and casts were not seldom caused by it; that chloroform nephritis occurs. In 70 cases of chloroform anesthesia reported by Patein, 12 per cent. showed albuminuria before, 15 per cent. during, and 73 per cent. after anesthesia. As a rule the albumin disappeared within 48 hours, and the length of the anesthesia seemed to bear no relation to the albuminuria. D. N. Eisendrath⁶ reported that albuminuria was present in 15 per cent. of 650 cases after chloroform anesthesia where there was none before, and in 6 per cent. of 1500 cases after ether where none had been present before. Casts were found unaccompanied by albumin more frequently after ether. In over half of the cases there were casts where no albumin was found. Casts and albumin disappeared rapidly, more so after ether than after chloroform. L. Wechsberg of Vienna⁷ tested the urine in 100 cases of chloroform anesthesia, finding biliary pigments in 16, and in most of these there was icterus, probably indicating some abnormal condition of the liver.

Respiratory System.—The first effect produced by chloroform is reflex irritation of the vagus through the terminals of the fifth nerve in the nose. The after-effects on the lungs and bronchi are similar to those of ether, only less pronounced. A large proportion of the chloroform taken into the system is eliminated by the pulmonary mucous membrane, and, being heavy, it is eliminated slowly. Besides its direct irritating effect during inhalation and elimination, it undoubtedly lowers the physiologic resistance and leads indirectly to the occurrence of bronchitis and pneumonia.

Cardiovascular System.—Fränkel⁸ proved beyond a doubt that fatty degeneration and fragmentation of the heart muscle, both in man and animals, follow the administration of chloroform as an anesthetic. Previous to Fränkel's publication, several observers had noted similar changes in animals after chloroform inhalation. Since then, Ambrosius, Mathen, Bastianelli, Heinz and others have reported cases of the kind in man. Lengenmann,⁹ experimenting on dogs with definite amounts of chloroform, found that the amount of chloroform given made very little difference in the extent of the fatty degeneration of the different organs. While a certain amount of chloroform must be in circulation before fatty degeneration can be produced, he found that this quantity was always present when sufficient chloroform had been given to produce narcosis. Repeated narcoses increased the extent of the degeneration. A large proportion of the cases where fatty degeneration of the heart was found in man occurred after anesthetics, prolonged for 2 or 3 hours, and this accords with a priori reasoning.

5. Chicago Medical Recorder, June, 1897.

7. THE JOURNAL Am. Med. Assn., vol. xxxviii, p. 1340.

8. Virchow's Archiv, 1892 (quoted by Bloodgood, Progressive Medicine, 1901).

9. Beitrage zur Klin. Chir., 1900, Bd. xxvii, Heft 3, p. 805.

5. Wien. Klin. Woch., Aug. 1, 1901 (quoted in THE JOURNAL Am. Med. Assn., vol. xxxvii, p. 608).

NITROUS OXID.

Physiologic Action.—Formerly it was thought that nitrous oxid was merely an asphyxiant, that its anesthetic properties were due entirely to its exclusion of oxygen. It is, however, a true anesthetic, and may be given with an admixture of air or oxygen with the result of producing quiet anesthesia without asphyxial phenomena.

Nitrous oxid is non-irritant, or nearly so, to the respiratory mucous membrane. It causes a positive and rapid rise in the blood-pressure, while there is slowing of cardiac action. Soon the heart beats faster and there is a fall in arterial pressure, due to vasomotor paresis. The respiration is labored and may be arrested by obstructive stertor or spasm of the respiratory muscles. When given without admixture of oxygen it produces asphyxia, manifested by stertorous respiration, cyanosis and dilation of the pupils—and in these cases the anesthetic effects are due largely to the asphyxia. In deep narcosis from nitrous oxid the renal vessels are contracted, the secretion of urine is diminished, and albumin may be found. The gas is eliminated unchanged by the kidneys and lungs.

The after-effects of nitrous oxid are, as a rule, transient; limited to slight dizziness, nausea or headache, lasting a few hours. Occasionally there may be albuminuria or dilation of the heart, the latter continuing for several days.

Nitrous oxid has until recently been employed for short anesthetics only, chiefly for tooth extraction. In 1899 Frederick W. Hewitt¹⁰ published his deductions from observation of 231 cases of nitrous oxid narcosis. Pure nitrous oxid was given in 22 cases; nitrous oxid mixed with different percentages of air, 107 cases; nitrous oxid mixed with different percentages of oxygen, 102 cases. He concludes that when pure nitrous oxid is given the most conspicuous of the anesthetic phenomena are embarrassed and deeply stertorous breathing, cyanosis, and anoxemic convulsion. Other less obvious asphyxial phenomena are dilation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action. All these may be eliminated or greatly modified without interfering with the anesthetic effects of the gas by administering it with certain proportions of oxygen, either pure or atmospheric. If the administration be pushed far enough, breathing is arrested by obstructive stertor, by anoxemic convulsion attacking the respiratory muscles, or by both combined. Paralytic cessation of breathing is very rare, and when it occurs is dependent quite as much on cerebral anemia from defective circulation as on the presence of unoxygenated blood in the vessels supplying the respiratory center. The deep and obstructive stertor of pure nitrous oxid narcosis is not met with when employing mixtures containing moderate percentages of air or oxygen, and when the percentage of oxygen is considerable—30 per cent. air or 13 per cent. oxygen—respiration becomes noiseless and free from obstruction.

Nitrous oxid is by far the safest general anesthetic we have. According to H. C. Wood¹¹ there were but 4 recorded deaths up to 1900 which could be certainly attributed to the drug. Hewitt,¹² however, records 17 deaths positively due to nitrous oxid, and 6 others probably due to it. Obviously, it is not entirely without danger. It is probably within the bounds of fact to

estimate the death rate as low as from 1 to 3 in 1,000,000 narcoses.

ETHYL BROMID.

Ethyl bromid is almost non-irritant to the respiratory mucous membrane—by some it is believed to be sedative to this membrane. H. C. Wood found that its action on the heart was about the same as that of chloroform, and death occurs usually from cardiac paralysis. During its administration the skin and lips should not change color, nor the pupils become dilated.

The after-effects are generally limited to slight vertigo, nausea or headache. There is a garlicky odor to the breath for from one to three days after administration.

It is not at all safe to give ethyl bromid for more than 2 or 3 minutes, as longer administration is very liable to cause circulatory and respiratory failure. It is administered in 4 to 12 gram doses without admixture of air.

ETHYL CHLORID.

My experience with ethyl chlorid as a general anesthetic is *nil*, but from the data at hand I am inclined to class it with the more dangerous anesthetics, and would expect it to be especially dangerous in cardiac and respiratory troubles. Benjamin W. Richardson has asserted that an anesthetic is dangerous in proportion to the chlorin it contains, and it may be that his belief was founded on sound principles. Almost every reporter on ethyl chlorid anesthesia mentions a death in the literature. Although several deaths have probably occurred, it is likely that repetitions have occurred in the reports. Lotheisen (1900) reports 1 death in 2,500 cases, while Ware (1902) says that but one death has been reported in over 13,000 cases. He places its safety between that of ether and that of nitrous oxid.¹³

PENTAL.

Administered by inhalation, 8 to 12 grams are usually sufficient to produce anesthesia. Loss of sensibility occurs within 50 to 90 seconds without entire abolition of consciousness, but the effect may be pushed to profound anesthesia. The pupils sometimes dilate widely. Return to consciousness is gradual. Pental has been used little or not at all in the United States, but in Europe it was tried quite extensively some years ago. It has been almost discarded as a practical anesthetic.

EFFECTS OF ANESTHETICS DURING NARCOSIS.

As to ether there is little difference of opinion, nearly all agreeing that in almost all cases its dangerous effects are manifested primarily by disturbances of the respiratory system.

In the case of chloroform the diversity of opinion is great. N. Senn agrees with the second Hyderabad Commission (superintended by Lauder Brunton), that chloroform kills by its effect on the respiratory system. My belief has always been that the bad effects of chloroform were, as a rule, exerted primarily on the circulatory system, and increasing experience and observation go to confirm that belief. The circulatory and respiratory systems are very greatly interdependent, consequently that which affects one will also affect the other. This fact partly accounts for many erroneous interpretations of anesthetic narcosis phenomena. The majority of reports of deaths from anesthetics show evidences of inaccurate observations. Many times this is excusable, because when accidents occur the prime consideration

10. British Med. Jour., Feb. 18, 1899.

11. H. C. Wood, Text-Book on Therapeutics, 1900.

12. F. W. Hewitt, Anesthetics and Their Administration, 1901.

13. American Medicine, vol. iii, p. 1043.

is for the life of the patient and no time can be spared for technical observations. However, the majority of accidents might be avoided by closer attention to details and early recognition of conditions present.

Chloroform Syncope.—Leonard Hill¹⁴ shows that there are two forms of chloroform syncope—primary and secondary—both forms being due to circulatory depression. Practically all observers agree that chloroform causes lowering of blood-pressure at all stages of the anesthesia, excepting momentarily at the beginning. The tracings of the Hyderabad Commission show that blood-pressure falls greatly before respiration ceases, but the Commission claims this has nothing to do with the heart, and that failure of respiration is the primary cause of death. If this be true, artificial respiration should be successful always, for it is well known that if the respiratory center be excised an animal can be kept alive for hours by means of artificial respiration. Lessening of blood-pressure is attributable partly to vasomotor paralysis and partly to cardiac failure. In rapid administration of an anesthetic the circulatory organs are in danger, and in slow administration the respiratory. Ether produces a slow fall of the blood-pressure, and chloroform a rapid.

MIXTURES AND SEQUENCES OF ANESTHETICS.

Both of these have their advocates, and with good reason in selected cases, especially as regards the sequences. These seem to be gaining prestige, especially the preliminary administration of one of the quick-acting and less disagreeable anesthetics—nitrous oxid—and continuing the narcosis with ether. A large number of combinations of ether and chloroform; ether, chloroform and alcohol; ether and alcohol; chloroform and alcohol, etc., have been used and warmly advocated. Morphine given before or during anesthetic inhalation produces mixed anesthesia; as do chloral, chlorotone, cocaine and other drugs. The weight of opinion is against the use of mixed anesthetics for routine work.

Schleich's Mixtures.—Dr. Carl Ludwig Schleich of Berlin¹⁵ recommends for general anesthesia a mixture consisting of:

R. Ethyl chlorid ..	 ½ part to 2 parts.
Chloroform	 4 parts.
Anesthetic ether	 12 parts.

He records that he has used this mixture in about 5,000 cases without any bad results.¹⁶ Some years ago Schleich gave it as his belief that mixtures of anesthetics of different boiling points are safer than the different anesthetics alone, on the assumption that the absorption of an anesthetic as to quantity depends on its boiling point. The more volatile an anesthetic the slower will be its rate of absorption. Ether, which boils at about 36 C. (97 F.) will be absorbed less rapidly than chloroform, the boiling point of which is about 61 C. (142 F.). He believed that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration. He thinks that by producing mixtures with maximum evaporation points at different degrees above the blood temperature, we can regulate at will the excess which the expiration would not remove, and thus the amount of anesthetic retained in the blood. In order to accomplish this he added petroleum ether or benzine (boiling point 60 to 65 C.) to ether and chloroform in different proportions. His mixtures for inhalation consisted of three solutions:

No. 1, BOILING POINT 38 C. (FOR BRIEF ANESTHESIA).

R. Ether	 3vi	180
Petroleum ether	 3ss	15
Chloroform	 3iss	40

No. 2, BOILING POINT 40 C. (FOR MEDIUM ANESTHESIA).

R. Ether	 3v	155
Chloroform	 3iss	40
Petroleum ether	 3ss	15

No. 3, BOILING POINT 42 C. (FOR PROLONGED ANESTHESIA.)

R. Ether	 32 2/3	83
Petroleum ether	 3ss	15
Chloroform	 3i	31

Schleich claimed for these solutions that the anesthetist might be guided, as to the effects of the anesthetic, by the respiration alone; that there was no excitement, no tendency to irritate the bronchial tubes; the pulse had good tension and was never increased, but might be decreased, in frequency; that consciousness was regained more quickly than from ether or chloroform narcosis; and if the solution with a boiling point at about blood temperature were used, only a few respirations were taken before the patient became conscious.

These solutions were received with considerable enthusiasm by a number of American surgeons, among them Henry J. Garrigues, H. Rodman, and Walter Lathrop, the latter using them in 700 cases. Schleich's claims were not sustained in any very important respect, and so far as I know the solutions are not used here. My own experience with them was limited to 15 consecutive anesthetics, in 1898, when I encountered a case which convinced me that the solutions were at least as dangerous as chloroform. I believe the ethyl chlorid mixture will not stand the test of time better than his old mixtures.

Schleich's reasoning, that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration, is fallacious, because a certain amount of the anesthetic would be retained in the blood and eliminated in part through the kidneys; and, moreover, the temperature of the body tends always to become reduced during anesthesia. In other words, the temperature of the body is not a constant quantity during anesthesia.

I do not believe that any form of chloroform mixture can be made as safe for routine use as ether.

Willy Meyer¹⁷ reports his experience with "anesthol," a new anesthetic which he and H. P. Weidig, Ph.D., of Newark, N. J., have evolved out of the Schleich mixtures. He bases his recommendation of the use of anesthol on his experience with it in "many hundreds of cases operated on during the last 4 years." In this series of cases there was one death on the table directly attributable to the effects of the anesthetic. In this case it appears that respiration and circulation ceased suddenly, as in some forms of chloroform syncope. Meyer states that in all of the surviving cases in which dangerous symptoms occurred, it was the respiration and not the circulation which was especially affected. The anesthesia under anesthol is said to be tranquil, the circulation excellent and, when carefully administered, the respiration easy—much the same as with the original Schleich mixtures.

In my judgment, the great objection to the use of anesthol is that it contains chloroform—and a large proportion of it. Whether the ethyl chlorid contained adds to its toxicity must be decided by further experi-

14. Brit. Med. Jour., April 17, 1897.

15. Berliner Klinische Wochenschrift, vol. xxxviii, p. 269.

16. E. H. Squibb's Ephemeris of Materia Med., January, 1901.

17. THE JOURNAL Am. Med. Assn., Feb. 28, 1903, vol. xi, p. 533.

ence with ethyl chlorid as a general anesthetic. Theoretically, I would consider Schleich's ethyl-chlorid-chloroform-ether mixture, above mentioned, decidedly less dangerous than anesthol, owing to the vastly smaller amounts of chloroform and ethyl chlorid contained in the former. Schleich's statistics with his latest mixture show far better results than do Meyer's with anesthol. I do not expect either of these mixtures to attain and maintain the high regard of surgeons in general, nor do I believe that any form of chloroform mixture can be made as safe for administration in routine work as ether.

The administration of morphin before or during an anesthesia by ether or chloroform to produce a mixed anesthesia is sometimes a distinct advantage. Morphin given before chloroform is likely to prevent the dangerous nasolaryngeal reflex and the "stage of excitement." Atropin given before ether administration very materially reduces the excessive secretion of mucus produced by the ether and is a distinct advantage. A hypodermic injection of morphin and atropin, then, before ether or chloroform anesthesia is good practice. Atropin as a cardiac stimulant tends to counteract chloroform depression.

SUCCESSIONS OF ANESTHETICS.

By this term is meant the induction of anesthesia with one anesthetic and its continuance with another.

Ether-Chloroform.—This method of anesthesia is often employed in operations about the face and its cavities, where partial or "talking anesthesia" is desirable. Giving the ether first reduces the amount of chloroform required, and the narcosis is more readily maintained with chloroform than with ether.

Chloroform-Ether.—This method is a favorite with a large number of surgeons. Primary anesthesia is induced with chloroform, which saves time and is less disagreeable to the patient, and the narcosis continued with ether.

Nitrous Oxid-Ether.—This method has become popular in both the United States and Europe, especially in England. The advantages of the method are: 1, the time required to produce anesthesia is reduced to from 2 to 5 minutes; 2, the discomfort to the patient is reduced to the minimum; 3, the nausea and vomiting following etherization are reduced. About the only real disadvantage has been that, on account of the apparatus required, the method was practically limited to hospital practice. However, its mode of administration has been so simplified that the cumbrous inhaler can be dispensed with.¹⁸ An ordinary paper and towel cone open at both ends may be used instead of the closed inhaler. This reduces the danger of asphyxiation and is cleanly and inexpensive. This method of producing anesthesia approaches the ideal when the open method of administration is employed and the ether given drop by drop. With this method there is less change in the conditions to which the body is normally subject than results from any other form of anesthesia.

Nitrous Oxid-Ether-Chloroform.—This method of anesthesia is advised by Frederick W. Hewitt.¹⁹ He bases his recommendation on these grounds: The gas makes the anesthetization easier and pleasanter for the patient; the ether can be administered during the chief part of the operation, and gives the anesthetist little concern, whereas chloroform produces greater quiet and muscular relaxation, and during the administration there is also a comparative freedom from venous en-

gorgement. The danger from chloroform is during the second stage—that of excitement—which is avoided by the employment of this method. The disagreeable after-effects of ether are also avoided. This method is highly commended in operations about the mouth, throat and nose.

Ethyl Bromid-Ether.—This method is being tried somewhat extensively. The chief advantage of the method over the nitrous oxid method is that no special apparatus is required. Four fluid grams (1 fluid dram) of ethyl bromid is poured into a folded piece of gauze held in the palm, over which the fingers are partially flexed, forming a cone, and this is applied closely over the patient's nose and mouth so as to exclude air. Unconsciousness occurs on an average in 40 to 60 seconds. Ether is then substituted, and there is usually little disturbance when the change is made. In from 2 to 4 minutes more the anesthesia will be complete. Less ether is required than in pure ether narcosis. By the amount necessary to produce unconsciousness.

I have tried ethyl bromid-ether anesthesia in a few cases, with results about like the above mentioned. I am, however, unable to convince myself that ethyl bromid is not much more dangerous than nitrous oxid, consequently do not expect to employ the method again unless many thousands of administrations by others shall have demonstrated beyond reasonable doubt that it is as safe as nitrous oxid. There is not sufficient advantage in the ethyl bromid-chloroform method to warrant its employment.

Chloroform-Oxygen.—This method is probably safer than the ordinary chloroform method, but it is difficult to believe it is as safe as Heinz Wohlgemuth²⁰ implies when he says that he thinks overdose with this method is impossible. He reports 300 narcoses by the method. He uses an elaborate apparatus—in itself an objectionable feature.

CHLOROFORM AND AMYL NITRITE.

During the Civil War this mixture was used very extensively. Four grams (1 dram) of amyl nitrite is added to 1 pound of chloroform. The object is to reduce the danger of chloroform narcosis. The amyl nitrite perceptibly diminishes the cardiac depression of chloroform and improves the capillary circulation, as shown by less pallor. Cyanosis is less frequent than when pure chloroform is used. After observing its use by another surgeon (N. Senn) in a large number of cases I decided to try it. Its use in a few cases convinced me that the mixture is very much less safe than ether, though probably safer than chloroform alone.

PARTIAL OR TALKING ANESTHESIA.

This method is employed in bloody operations about the nose and mouth, instead of complete narcosis and Rose's (head down) position, to prevent blood from entering the trachea. A half hour before beginning the administration the patient is given 2 ounces of whisky or brandy in water, or 15 minutes before, a full dose of morphin hypodermically. The patient is placed with the head and shoulders somewhat elevated and the anesthesia carried only far enough to blunt or abolish the pain-sense, but the patient should remain sufficiently conscious to respond to questions and co-operate with the surgeon in clearing the mouth and throat of blood. This method does away with the necessity for preliminary tracheotomy in certain operations above the larynx.

Primary anesthesia may be advantageously employed for short operations—like the removal of adenoids,

18. Albert H. Miller: *Annals of Surgery*, 1899, vol. xxx, p. 709.
19. Gould's *American Year Book of Med. and Surg.*, 1902, p. 48.

20. *Interstate Med. Jour.*, St. Louis, October, 1901.

breaking up of ankyloses, thoracotomy, etc. Ether, and not chloroform, should be used, since in chloroform narcosis the time of greatest danger is during the moment when relaxation is occurring, just previous to the beginning of surgical anesthesia.

Nitrous oxid is the best anesthetic for short operations, but it should not (as is often done) be administered with the patient in the upright position, especially for operations about the pharynx, where blood or tissues are liable to be aspirated into the trachea.

ANESTHESIA IN HEART DISEASE.

As a rule, it is only in myocardial affections that anesthetics produce any markedly bad effects. In myocarditis ether is badly borne, and chloroform is dangerous in the extreme. In valvular disease, while there is appreciable disturbance, it generally is not great, and in functional affections the effects of anesthetics are insignificant.

In cardiac disturbances after anesthetics it is often difficult to determine whether the result is due to the anesthetic or to the operation. In some cardiac diseases ether has a temporarily beneficial effect, although the secondary effect may be unfavorable, the symptoms occurring after a lapse of days, perhaps. Ether is contraindicated in the presence of arteriosclerosis and high arterial tension. Nitroglycerin would tend to counteract this danger.

The effect of an anesthetic may, of course, show itself as a postanesthetic edema or pneumonia in these cases. No condition of the heart is an absolute contraindication to the use of an anesthetic, and ether is the anesthetic of choice.

TEMPERATURE CHANGES DURING ANESTHESIA.

All anesthetics tend to lower the body temperature, and the longer the narcosis the lower the temperature and the longer in recovering to normal. Depression of the nervous system and lowering of blood-pressure correspond closely to loss of heat. Ether causes profuse sweating, which, of course, lowers the temperature, the temperature also being lowered by evaporation of the ether. Atropin is useful in these cases as a vasomotor stimulant. The temperature may be lowered by anesthetics over 3 F. Loss of heat may be, to a great extent, prevented by properly covering the patient, by surrounding him with hot bottles, and by being careful to have the operating room at the right temperature (75 to 85 F.)

INHALERS.

There is a multitude of ether and chloroform inhalers on the market, some modeled for the "open method," others for the "closed method" of administration. The Esmarch chloroform mask and the Allis ether inhaler are types of the former, and the Clover and the Ormsby ether inhalers and the Junker chloroform inhaler of the latter.

The asphyxial element enters largely into the production of anesthesia when the "closed" kind of inhaler is used. I believe this adds to the danger. I discard this class of inhalers, as they are dangerous, cumbersome, expensive, and filthy. Take the Clover inhaler, for example. The patient's microbe-laden breath, to say nothing of its other constituents, is passed through the entire apparatus repeatedly, the face-piece is befouled with mouth secretions, stomach contents, etc., and this process is repeated time after time indefinitely. It is practically impossible to asepticize these inhalers, and even if this can be done, certain disagreeable odors can not be eliminated. Possibly, some of the pneumo-

nias attributed to ether can be accounted for in this way. The Junker inhaler is so constructed that the inspired air is charged with chloroform vapor by being forced, by means of a hand-bulb, through the liquid chloroform, after which it reaches the face-piece through a rubber tube. The percentage of chloroform in the inspired air is regulated by the depth of chloroform through which the air passes. Some 12 years ago I employed this apparatus in a few cases—and it has ever since been an especial source of comfort to me that none of the patients died from its use. Only an expert can use the elaborately constructed appliances, and with some of them, like the Junker inhaler, two persons are necessary in order to conduct the anesthesia properly. The paper and towel cone, closed at one end, is open to the following objections: The supply of ether can not be properly regulated; the patient is apt to be asphyxiated into insensibility; the ether vapor is not sufficiently nor constantly diluted with air, and the method is wasteful.

The best type of inhaler, for ether and for chloroform, is one made on the principle of the Esmarch chloroform mask. Lawrence H. Prince of Palmyra, Wis.,²¹ introduced this method in Chicago in 1895. It answers the purpose in most cases where ether can be used. The evaporating surface should be somewhat larger for ether than for chloroform, and the covering of gauze should consist of fully twice the number of thicknesses. In high altitudes and when the atmosphere is very warm, the mask should be modified, so as to allow its sides to be covered with a less pervious material—as in the mask devised by Nicholas Senn. Ernest Laplace has still further modified the Esmarch inhaler by covering the cone with metal, leaving ample opening at the top for air. All things considered, the Laplace inhaler is, perhaps, the best on the market. This kind of inhaler is cleanly, since fresh gauze is supplied for each case; it is efficient and safe, and the admixture of air can be easily regulated. I have modified the Laplace inhaler by having attached to the left side a ring for the thumb, which makes it easier to retain in place. The Esmarch or the Schimmelbusch masks can be made practically like the Laplace mask by covering the gauze with oiled silk or other impervious tissue, leaving an opening at the top.

TONGUE FORCEPS AND GAG.

A medium-sized double vulsellum will do less harm if properly used than the ordinary tongue forceps. The former simply makes two punctures, while the latter frequently lacerates and contuses the tongue. N. Senn has devised a tongue forceps, consisting of a lower, flat, fenestrated blade, with an upper, single tenaculum blade. I have modified this forceps by having a double tenaculum blade above and a heart-shaped blade below, instead of the pointed one. (Senn has recently changed his forceps to a double vulsellum.) I want to emphasize the fact that an expert anesthetizer seldom uses the tongue-holding forceps or the gag.

(To be continued.)

21. Chicago Medical Recorder, April, 1897.

Injection of Vaseline in Arthritis.—Delagènière of Mans recently treated a case of painful arthritis without effusion, involving the shoulder, by injecting vaselin. He hoped that it would act as a lubricant and keep the parts from painful contact. His hopes were realized as all pain vanished at once and there has been no recurrence during the three months since. Spontaneous physiologic movements of the joint were possible at once and all trouble from this source has ceased.

VAGINAL EXPLORATORY PUNCTURE AND CELIOTOMY;

THEIR ADVISABILITY IN DOUBTFUL DIAGNOSIS IN DISEASES OF THE FEMALE GENITAL ORGANS; REPORT OF CASES.*

C. O. THIENHAUS, M.D.
MILWAUKEE, WIS.

When some time ago in a discussion on the differential diagnosis of appendicitis, pyosalpinx, extra-uterine pregnancy, tuberculosis of the right tube and exudates in the right iliac region, I heard the opinion expressed by a teacher of gynecology: "What is the use of going into minute details of differential diagnosis in such cases? The abdomen has to be opened anyhow," I was unwillingly reminded of the general who without sufficient reconnoitering led his troops into an unknown valley, and afterward, encountering insurmountable difficulties, met terrific defeat. Though without question the advancements of modern surgery in the last twenty-five years have made an exploratory laparotomy a relatively safe procedure, so far as the immediate and probably the remote safety of the patient is concerned, yet it must not be forgotten that all therapeutic actions ought in every medical as well as surgical case to be based on a strict and correct diagnosis, and that all means and methods of diagnosis ought to be exhausted before reaching definite opinions and conclusions in regard to the therapeutic methods and routes to be employed in the individual case. "Not the idea of making large incisions to overcome difficulties in diagnosis, but the idea that when a surgeon makes a so-called explorative laparotomy he thereby confesses his ignorance, is real surgery and surgery of the future"—these words of Mikulicz¹ ought to be a *mene-tekell* in the operating room of those who, carried *furore operationis* on the diagnosis of a tumor in the abdomen, perform celiotomies regardless of the nature and operability of the disease in question.

In gynecology, bimanual, vagino-abdominal or recto-abdominal examination or a combination of both, enables us to make a diagnosis usually with more accuracy and more ease than in other regions of the abdominal cavity. But there are cases—and every gynecologist of larger experience has seen them—where the differential diagnosis between two or three diseases can only be made with approximative certainty or is even utterly impossible. In many of such cases, chiefly when the Douglas pouch is the seat of the disease, vaginal exploratory puncture, with or without vaginal posterior celiotomy, can not only affirm our up-to-this-point doubtful diagnosis, but at the same time further our decision, first, in regard to the operability of a case; second, concerning the advisableness of the vaginal or abdominal route as operative procedure.

I think nobody questions any more nowadays that vaginal incision and drainage in cases of abscesses of the pouch of Douglas, whether they originate from an infectious process in the uterus following abortion or birth or from a pyosalpinx or an appendicitis, is the method *par excellence*; nobody questions, furthermore, the advisability of the vaginal route for retro-uterine hematocoele when infected either by way of the uterus or by way of adherent bowels. So long as we do not know

whether the pus in an abdominal abscess is *pus bonum et laudabile*; so long as we are not in the possession of measures to determine the virulence of the bacteria and of the toxins present in the pus focus before operation, so long it must be our duty to open abdominal abscesses—where there exists a possibility—by an extraperitoneal route, that is, in women the Douglas abscesses by posterior vaginal celiotomy.

The diagnosis of such inflammatory exudate masses in the pelvis is, as already pointed out, not always easy. When they lie quiescent for a longer period of time they are often surrounded by a hard and thick shell of tissue, which not so seldom gives the impression of fibroid or, because of their irregularity, of malignant tumor. I observed two cases of retro-uterine exudate, in which the diagnosis of malignant tumor in one and fibroid in the other was made by other colleagues. Vaginal explorative puncture revealed a pus focus in the depth of six respectively of eight centimeters and the therapy; vaginal incision and drainage brought about a perfect cure within from six to eight weeks. It is the hardness and irregularity of such masses which can mislead to the diagnosis of malignant tumors.

That in cases where fluctuation is present in the posterior cul-de-sac, vaginal puncture may be of vital importance, I could demonstrate lately on three cases:

Mrs. R., 24 years of age, nullipara, states that she menstruated regularly and without discomfort since her fourteenth year. Fourteen days ago the menstrual flow was three days overdue and was connected with a sharp pain in her right side.

As the flow continued for more than nine days her physician was led to believe that an abortion had taken place and curetted the uterus. Very severe symptoms of peritonitis followed a few days after this procedure: pain in the lower region of the abdomen, elevation of temperature to 103 and pulse 140-150, together with frequent vomiting. When I was called into consultation to this—as the physician stated—absolutely hopeless case, I found the symptoms as above stated, the abdomen was tender all over, but chiefly in the lower portion. Bimanual examination revealed a fluctuating tumor of the size of a man's head in Douglas' pouch, pressing the somewhat softened uterus against the symphysis. As the woman showed no signs of anemia, I was inclined to the diagnosis of pelvic abscess following an abortion, though the irregularity in her menstrual period aroused my suspicion of possible extra-uterine pregnancy. Vaginal explorative puncture, followed immediately by vaginal incision, performed in the so-called exciting stage of ether anesthesia, revealed a large infected hematocoele, resulting from a right-sided extra-uterine pregnancy. The patient made a perfect recovery.

Fever in case of ruptured extra-uterine pregnancy does not necessarily include that the hematoma or hematocoele is already infected. It is a well-known fact that fever often follows severe hemorrhage, as for instance, hemorrhage from a puerperal uterus, without infection being present. This by the way.

In some cases the diagnosis between an unruptured extra-uterine gestation sac, chiefly when as far advanced as the third month of pregnancy, and pelvic abscess together with pyosalpinx, shows difficulties which can easily be overcome by vaginal explorative puncture.

The experience in a case five years ago, in which all the clinical symptoms, such as irregularity in the menstrual flow, absence of fever, etc., together with the findings by bimanual examination led three diagnosticians of reputation to the diagnosis of extra-uterine gestation of five months' duration, has taught me a lesson which I can never forget. After opening the abdomen in this case a pyosalpinx connected with an enormous abscess was found. In freeing a part of the adherent sigmoid

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.
1. Handbuch der praktischen Chirurgie, by Von Bergmann, Bruns and Mikulicz.

flexure, the abscess ruptured. General peritoneal infection followed the operation, to which the patient succumbed after forty-eight hours. Vaginal explorative puncture would have revealed the true nature of the disease and thereby indicated the vaginal route for operative procedure. Would vaginal incision and drainage have saved the life of the patient? It is my firm belief it would. Examples of this class have been very numerous, but are usually, unfortunately, not cited in literature. Many have been misled by the somewhat sweeping statement before the American Medical Association at St. Paul² that the vaginal operation for abscesses in Douglas' pouch was a dismal swamp procedure, and that vaginal opening was not a surgical operation. The free admission of Noble at Saratoga Springs one year later that through this error many a patient had lost her life which could have been saved by vaginal incision brought surgery back from the "bolder, more spectacular, but deadlier enucleation by the abdominal route," to use Reuben Peterson's words,³ to the channels of logical sense and logical principles, that is, simple vaginal incision. The following case, in which a diagnosis without explorative celiotomy was absolutely impossible, shows that vaginal posterior celiotomy may in some cases

Apparent fluctuation was perceivable on one point of this mass. What was the cause of this change?

Three things had to be taken into consideration: First, a pus tube could have ruptured and produced a Douglas pouch abscess bulging into the vagina. This was the most probable explanation because of the rise of temperature. Second, rupture of a blood vessel in a tumor, or in a pregnant tube could have occurred, producing a hematocele. Third, a tumor mass could have broken down. As by explorative, vaginal puncture, no fluid of any kind could be aspirated, the third cause was the only one possible.

Vaginal explorative incision revealed a soft, friable tumor mass originating from the left ovary, which was enlarged to the size of a man's fist and broadly attached to the posterior wall of the uterus. The microscopic examination, as shown in the accompanying drawing, revealed a small round-cell sarcoma of the ovary. It was evident that the other tumors, which had grown so rapidly in the last five weeks and which were adherent everywhere to the surrounding organs, were of the same nature as the specimen examined. As hereby the inoperability of the tumor was demonstrated I pronounced the case as hopeless and advised strongly against further operative procedures.

Dr. Reuben Peterson saw the case later and confirmed in every way my statements. As the family and the patient insisted on giving her a last chance by abdominal operation he operated and found the condition beyond hope. The patient died 52 hours after operation.

It is here not the place to go into details of the pathology of this interesting tumor, as this will be published elsewhere. I would only like to point out here that it is a well-known fact that round-cell sarcoma of the ovary usually affecting both ovaries belongs to the most malignant diseases of the female generative organs, and that the rapidity of their growth is sometimes startling. Chrobak⁴ observed a case which grew within twenty-three days from the region of the navel to the border of the ribs. A similar case has been described by McBurney.⁵

At the close of my paper I would like to emphasize once more that, as shown on these instructive cases, vaginal explorative puncture and celiotomy is a valuable aid in the differential diagnosis of certain diseases of the female generative organs and may even be oftentimes of vital importance for the surgeon who bases his therapeutic actions on the old Hippocratic law: *Primum nil nocere*.

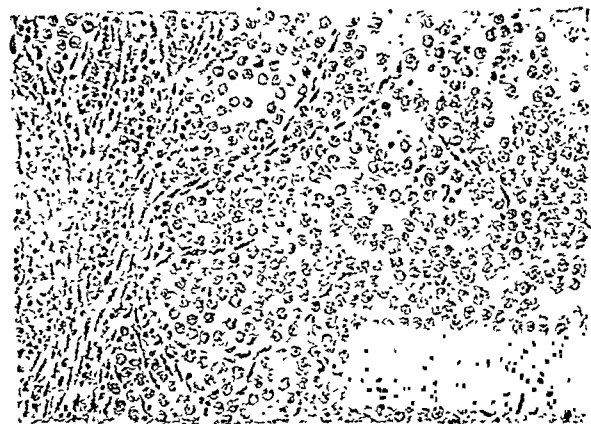
By its advocacy is furthermore demonstrated the wisdom of the old, but in our days, unfortunately, too often violated law: Not to be carried away by every new idea, but to accept only that what appeals to judgment, and I would like to close with the precautionary words often cited by Gaillard Thomas⁶ of New York, who, by the way, was one of the first advocates of vaginal celiotomy, as cited by Mackenrodt⁷ in his paper: *Ueber den hinteren Scheidenbauchschnitt*:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

Post-Graduate Hospital.

DISCUSSION.

Dr. H. J. STACEY, Leavenworth Kan.—We see many cases in which a vaginal puncture or free opening would relieve the condition and is without danger, whereas an abdominal section is out of the question. The occasional operator would take a chronic case and perhaps do well by the abdominal route; but the patient is frequently in too dangerous a condition for a major operation, at least in our hands, because we operate too slowly; but by draining first we can very



Round-cell sarcoma of the ovary. (Mrs. W.)

give evidence of the operability or inoperability of a tumor in question.

Mrs. W., 43 years of age, states that she gained in flesh in the last half year and that she felt perfectly well in every respect up to the last three months. At that time she felt a slight pain in the right iliac region, which she attributed to rheumatism. Four weeks ago the pain, accompanied by a slight rise of temperature, increased to such a degree that the family physician was called in. On examination he found three irregular hard tumors varying from the size of a goose egg to that of a small fist, originating from the uterus. Diagnosis: Subserous fibroids of the uterus. After examining her in consultation I confirmed this diagnosis, but suggested in regard to the rise of temperature, that an inflammatory condition, probably originating from the left tube and ovary and lying behind the uterus, complicated the condition.

Abdominal hysteromyomectomy was advised, to which the patient consented about eight days later. After transportation to the hospital, however, symptoms of peritoneal irritation with rise of pulse to 120 and temperature to 102 developed. An examination immediately before operation revealed that the entire situation had changed to a marked degree. The tumors attached to the uterus seemed enlarged considerably and could be outlined on the outer side of the abdomen. On bimanual examination a mass was found in the posterior cul-de-sac pressing down the rectum and bulging into the vagina.

2. THE JOURNAL A. M. A., July 6, 1901.

3. Amer. Jour. Obstet., 1902, p. 810.

4. Wiener med. Blätter, 1898, No. 23.

5. Annals of Surgery, June, 1895.

6. Amer. Jour. of Obstet., 1903, p. 504.

7. Sammlung klinischer Vorträge, No. 156.

safely and easily do the major operation later by the abdominal route and save many lives in that way.

DR. D. H. CRAIG, Boston—I think cutting through a wall 8 to 10 cm. in thickness should be kept distinctly out of the field of vaginal opening. When we have pus so firmly walled off as that it is perfectly safe to go through the abdominal wall, then we can clean it out thoroughly and make a complete cure instead of leaving the patient with a lot of material to absorb. As regards the occasional operator, I think the vaginal route is better for him, providing he is sure of his technic. But no man can do more harm than the occasional operator going through Douglas' cul-de-sac into the abdomen. The posterior or anterior cul-de-sac operations are not, as a rule, curative. They are palliative, and if the occasional operator will take that route and do these operations it is incumbent on him to advise his patient of the fact that he is doing a palliative operation and that other work may be required by some one who is not an occasional operator.

DR. J. H. CARSTENS, Detroit—I wish the essayist would say "opening" instead of "puncture." A "puncture" means a little bit of an opening, and to my mind the opening can not be too big. A little one closes up right away, and you must do your work again. Make a good, big opening, and give Nature a chance.

DR. C. O. THIENHAUS—When I have a hard mass lying in the cul-de-sac of Douglas, and the diagnosis, whether or not this hard mass contains a focus of pus, can not be ascertained by other means, I advocated in my paper exploratory vaginal puncture for this purpose, and if I find pus I drain by way of the vagina. Dr. Craig says it is better to open the abdomen in such cases. Clinical experience has shown evidently that it is not. When you can not before operating determine the virulence of the bacteria present in the pus, you are liable, when a little of this pus contains highly-virulent infectious material, to see your patients die promptly. When bacteriology is so far advanced that we can determine with absolute certainty the grade of virulence of the bacteria in the pus focus, then we can differentiate and state in what cases abdominal section may be done without fear of infecting the general peritoneal cavity. But up to this time it is always better to be on the safe side and to open intraperitoneal abscesses, where there exists a possibility, by an extraperitoneal route. When the speaker says that cases of double pyosalpinx of gonorrheic origin do not heal by simple vaginal drainage, I would like to cite the statistics of Treub, who states that from 79 cases 44 were radically cured by simple vaginal drainage without further interference. I am sorry that Dr. Carstens misunderstood me. Naturally, when the puncturing needle has demonstrated the presence of pus, the vaginal incision must be as large as possible to establish free drainage.

CARCINOMA AND TUBERCULOSIS TREATED BY THE ROENTGEN RAYS.

G. E. PFAILER, M.D.

Formerly Assistant Chief Resident Physician in the Philadelphia Hospital, Assistant Physician to the Medico-Chirurgical Hospital, Skiagrapher to the Medico-Chirurgical Hospital, Lecturer on Terminology and Symptomatology, and Demonstrator of Physical Diagnosis in the Medico-Chirurgical College.
PHILADELPHIA.

As a basis for the conclusions to be drawn in this paper, I have selected nine cases, each illustrating some special point of interest. I have omitted many of the details which would be of little interest to the general practitioner.

CASE 1.—Mrs. K. E., aged 84 years. Referred by Dr. Ulrich of Chester, Pa. The diagnosis was carcinoma of the right breast. Operation was contraindicated on account of the patient's age and on account of the condition of her heart. The growth was of one year's duration. There was a distinct retraction of the breast below the nipple, making a groove about two and a half inches in length. In connection with this there

was a hard mass about the size of a hen's egg. Surrounding this central mass there were other masses of lesser size and of less density. The overlying skin was healthy. There was no axillary or supraclavicular involvement. Treatment was begun April 20, 1903, and exposures were given daily for two weeks. Each exposure was of ten minutes' duration, at a distance of 15 inches, with a high vacuum tube and 3 to 4 ampères' current. The treatments were then given three times a week for six weeks, then twice a week for ten weeks, and once a week for 2 weeks. She had 57 treatments in all. The length of each exposure was gradually increased from 10 to 25 minutes. After the first week there was improvement in that the semi-solid masses disappeared. At the end of two weeks the central mass seemed to be a little softer. From this time there was



Fig. 1.—Case 4. Before treatment by x-ray, May 25, 1903. Sarcoma of orbit. Scar due to an operation.

constant improvement, the mass gradually became softer and smaller until it disappeared.

The points of special interest in this case are the early and constant improvement, and the absence of any dermatitis in spite of the unusually long exposures. In no other case have I been able to give nearly so long an exposure without producing a marked dermatitis. As a whole, it is one of the most remarkable cases that I have seen.

CASE 2.—Mrs. K. J., aged 40 years. Diagnosis, recurrent carcinoma of the left breast. She had been operated on twice by Dr. Sanford of Memphis, Tenn. The first operation was performed one month after the growth was first noticed, May 7, 1900. A growth reappeared one year later and was removed December, 1901. A recurrence developed in July, 1902. X-ray treatment was begun in October, 1902, at which time there was

CARCINOMA AND X-RAYS—PFAILER.

DEC. 5, 1903.

induration involving the entire scar and about one inch either side, with nodules in the axilla and the left supraclavicular region. There was also an induration in the right axilla. Both mammary, axillary and supraclavicular regions were treated. Seventy-five treatments in all were given, between October 11 and May 31, when the carcinomatous tissue seemed to have disappeared. Treatments have been given since that time at intervals of two to four weeks for the purpose of preventing any recurrence or any involvement of the mediastinal glands. The patient's general health before treatment was failing and she was not expected to live six months. Her general health improved while under treatment. A dermatitis was produced on two occasions, each of which seemed to be followed by distinct improvement.

CASE 3.—Mrs. J. W., aged 48 years. Recurrent carcinoma of the left breast. She was operated on by Dr. Wharton in

reapplied the rays, which produced another burn that developed after leaving the hospital. I advised her to go to the seashore and allow the burn to heal. While there a recurrence developed on the site of the burn without the burn healing.

This case to all appearances was similar to Case 2, but the results have been very different. It is an instructive case, because of the idiosyncrasy against the rays, since less rays were used than on either of the two previous patients. It also shows that a severe burn is no proof against carcinoma; also, that it is wrong not to keep a case under observation while a burn is healing, and that even when a good result is obtained the case should be watched.

CASE 4.—Miss D. B., aged 16 years. Referred by Dr. L. Webster Fox. This was a case of retrobulbar sarcoma, the diagnosis being confirmed by microscopic examination. The antrum of Highmore had been previously curetted by Dr. E. B.



Fig 2—Case 4. After thirty four treatments. July 16, 1903.



Fig. 3.—Case 4. After forty treatments. Aug. 27, 1903. Scar due to an operation. Slight not disturbed.

June, 1902, one month after the growth was first noticed. The whole breast and axillary glands were removed. A recurrence was first noticed in November, 1902. X-ray treatment was begun Jan. 22, 1903. At this time nodules from the size of a pea to that of half a walnut were found scattered through the field of operation. A small indurated gland could be felt in the left supraclavicular region. Twenty-six treatments were given between Jan. 22 and April 7, 1903, when a burn of the second degree had been produced. The growth had lessened very much, both in size and induration. Treatment was discontinued. The thyroid gland, which was large at the beginning, now grew rapidly and the patient developed the symptoms of exophthalmic goiter. She was taken to the Presbyterian Hospital, where the burn healed, the thyroid gland decreased rapidly in size, and the general health improved. The patient then developed pain in the axilla, and Dr. Newcomet

Gleason. The growth again rapidly infiltrated the sinuses. The patient had been examined by Dr. Walter Freeman. She had also been examined by Dr. W. L. Rodman, who refused to operate and advised x-ray treatment. No one expected the patient to live. At the time of beginning treatment the patient was too weak to stand, complained of severe headache and pain in the eye. There was a marked bulging of the eye from the orbit and a protrusion of the conjunctiva. The case was treated daily with five-minute exposures, with a high vacuum tube, and 3 to 4 amperes of current, at a distance of 12 inches. At the end of a month the swelling had almost disappeared, the pain was less, and the patient was well able to walk around and left the hospital. There had been an erythema present for two weeks. She was then treated twice a week for a month, at the end of which time she could open her eye slightly, and felt fairly well. She was then treated once a week for two

months, when she was apparently well, except for occasional pain in the region of the inner canthus. She is still being kept under observation and occasional treatment. There was no loss of sight.

This case is important (1) because it was a sarcoma; (2) because of its extensive infiltration; (3) because of its prompt and constant improvement; (4) because there was no injury to the organ of sight as a result of the treatment.

CASE 5.—Mrs. A. S., aged 69 years. Epithelioma of the face. Referred by Dr. J. M. Anders, July 3, 1903. During the previous two months an epithelioma had been developing on the right side of the nose, and extended on the bridge of the nose. It was completely removed by 20 exposures, covering a period of two months. The cosmetic result is perfect. There is no scar, and the skin is smooth and of a pink color.

CASE 6.—Mr. S. G., aged 60 years. Epithelioma of the mucous membrane. Referred for x-ray treatment by Dr. Hollopeter. Ten years ago a warty growth developed on the lower lip. He began treatment at a sanatorium near Boston, July, 1900, where caustics were used. He remained there 18 months, at the end of which time he came to Dr. Hollopeter and was referred to me. His mouth could then not be opened except to admit the little finger, and this gave him severe

ing of the glands on both sides of the neck and because of an indurated scar on the right side of the neck. After 10 treatments the scar and the glands were softer. After six weeks and 15 treatments the scar had almost faded and the glands were almost imperceptible. After 5 months and 34 treatments the glands were imperceptible, and the scar was soft, pink and barely noticeable.

CASE 8.—Miss J. F., aged 16 years. Referred by Dr. W. L. Rodman, March 3, 1903. Diagnosis, tuberculous adenitis and tuberculous ulcers of the legs. She was operated on by Dr. Rodman one year ago, when the glands were completely removed from the left side of the neck, from the lower portion of the right side of the neck and from the right axilla. At time of beginning treatment there was enlargement of the postcervical glands and a distinct enlargement just below the right ear. There were also three ulcers on the right leg, varying in size from one inch to two inches in diameter. She has been given 40 treatments covering a period of eighteen weeks. The two smaller ulcers on the leg healed within a month. In six weeks the largest gland had ruptured and healed. At the end of four months the enlargement of the glands had disappeared. The largest ulcer on the leg had

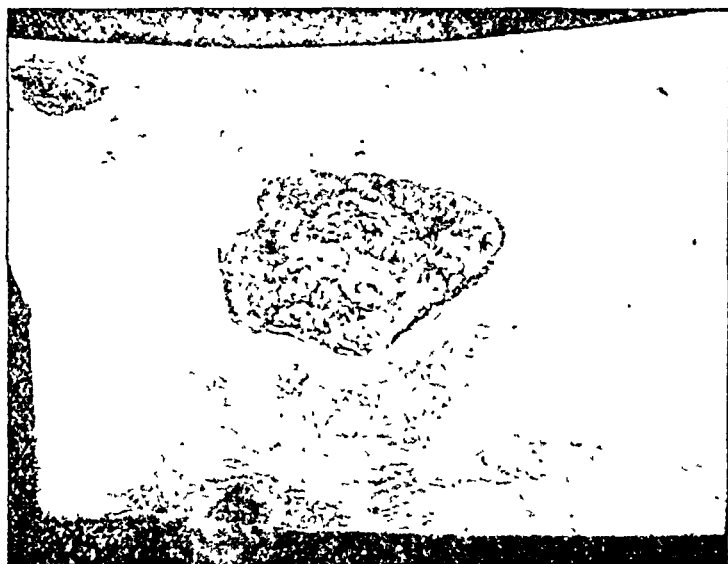


Fig. 4.—Case 8. Tubercular ulcers of the leg, March 3, 1903, before x-ray treatment.



Fig. 5.—Case 8. Oct. 12, 1903. Ulcer healed, scar still red.

pain. The growth involved the right angle of the mouth and the greater part of the cheek. There was an enlarged gland in the right submaxillary region. The gland disappeared in about a month under treatment, but the growth itself, being mostly in the mouth, slowly but gradually increased in size and the amount of pain increased. The case was inoperable from the first, but the rays had little influence except perhaps to slightly retard the growth. Ninety treatments were given.

Cases 5 and 6 are important because of their differences. In Case 5 the epithelioma was entirely superficial, involved the skin, had never been tampered with by caustics, was treated early with the x-rays and yielded promptly with perfect results. In Case 6 the epithelioma was not entirely superficial, involved the mucous membrane, had been tampered with by caustics for eighteen months, x-ray treatment was begun late, after the growth had started to spread, and a long course of treatment was given with practically no results.

CASE 7.—Miss A. N., aged 20 years. Tuberculous adenitis. Referred by Dr. Ernest La Place. She had had tubercular adenitis for nine years and had been operated on by Dr. La Place three years ago, and again one year ago. She was referred for x-ray treatment Feb. 9, 1903, on account of swell-

been reduced to one-third its original size, and had a healthy appearance, but needed support of the circulation. Dr. Burns then applied an elastic cast and the ulcer healed in three weeks.

The above two cases are important because they show undoubtedly a good influence of the rays on the tuberculous glands and ulcers.

CASE 9.—Miss K. B., aged 30 years. Referred by Dr. La Place, under whose care she had been for fifteen years. Diagnosis, lupus vulgaris. At the time of beginning treatment, the diseased area covered the greater part of the anterior portion of the face and the entire nose. A distinct reaction was produced in two weeks by 7 exposures. Following this reaction the tubercles were leveled to the skin and desquamation took place. She has been given 18 treatments in four months, and is practically well.

I report this case because of a very interesting and remarkable coincidence. For eight years previous to beginning treatment, the patient had been very deaf, so that it was difficult to make her hear. At the end of the course of treatment, she could hear ordinary conversation. This remarkable result was unthought of and, therefore, no accurate observation had been made before treatment; but eight years ago a specialist in

New York had examined her and pronounced her deafness incurable. This result suggests that the rays may be of value in some forms of deafness.

In conclusion, I am convinced that:

1. The x-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis.

2. The more a case has been tampered with, the less likely it is to yield to the influence of the x-rays, *e. g.*, Case 6.

3. Daily treatments carefully and properly given will produce the best results, *e. g.*, Cases 1 and 4.

4. We should try never to produce a dermatitis beyond a simple erythema.

5. There are idiosyncrasies in certain people which render them most susceptible to the x-rays, and in these people deeper burns may occur in spite of the most careful treatment, *e. g.*, Case 3.

6. Epithelioma involving the mucous membrane is much less likely to yield to the effect of the x-rays than when it simply involves the skin, *e. g.*, Case 6.

7. There is not likely to be any interference with the sense of sight, even though the x-rays are used directly over the eye, *e. g.*, Case 4.

8. Tuberculosis, whether of the skin or of the glands, will yield at least in certain cases to the effects of the x-rays, *e. g.*, Cases 7, 8 and 9.

9. The x-rays may be of value in certain cases of deafness.

10. The x-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face, *e. g.*, Case 5.

11. Epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by x-ray treatment.

12. Operable cases should be operated on and in each instance followed by a course of x-ray treatment, and x-ray treatment should be given at the first sign of a recurrence.

13. Inoperable cases should be given a trial with the x-rays, since even hopeless cases sometimes yield to this form of treatment, *e. g.*, Case 4.

14. It is desirable to produce a distinct reaction in the treatment of lupus, *e. g.*, Case 9.

Clinical Reports.

TWO CASES OF TRANSITORY COMPLETE BLINDNESS OF BOTH EYES.*

CHARLES J. KIPP, M.D.

NEWARK, N. J.

IDIOPATHIC OPTIC NEURITIS.

CASE 1.—Mrs. K. S., aged 32, has been married eleven years, and is apparently in robust health. She has given birth to two children, both of whom are living and in good health; the younger is 4 years old. Patient has always been in good health. No history of syphilis. For some weeks she has suffered more or less from frontal headache.

She came to the Newark Eye and Ear Infirmary for the first time Dec. 22, 1901, complaining of loss of vision of left eye and impairment of vision of right eye. The examination made at this time showed that the exterior parts of the eye were perfectly normal in appearance, and that the movement of the eyes were unimpeded in any direction. On closer examination it was found that the left eye was blind; this eye could not distinguish between light and darkness. The pupil of this eye was larger than that of the right eye and it did not react

to light. It did, however, respond to light thrown in the right eye. The ophthalmoscope showed clear media and a well-marked papillitis. The optic disc was swollen and apparently enlarged. The retinal veins were full and tortuous, while the arteries were of about normal caliber. The retina immediately surrounding the disc was hazy, but otherwise it was normal. The right eye also showed swelling and enlargement of the optic disc, but not quite so marked as that of the other eye. The retina was transparent except very close to the optic disc. The pupil of the right eye was of normal size and responded readily to light. The sight of this eye was reduced to 5/12. An examination of the urine showed it to be free from albumin and sugar. Close questioning failed to reveal disease in any other part of the body.

She was given iodid of potassium in small doses. She was seen again the next day, when it was found that both eyes were now totally blind. She could not recognize the light of a candle held close to her eyes. The swelling of the optic discs had increased. Their surfaces were best seen with a +3 dioptric glass. The pupil of the right eye was now as large as that of the left eye, and neither pupil reacted to light.

She remained in this condition until December 28, when she could distinguish between light and darkness. December 30 it was found that the pupil of the right eye responded very sluggishly to light, but contracted in convergence. The pupil of the left eye responded even more sluggishly than the right eye to light, but also contracted in convergence. She can see movements of hands in front of her eyes, but can not yet count fingers close to her eyes. She was at this time taking fifteen grains of the iodid of potassium three times daily.

Jan. 8, 1902, it was found that the pupils of both eyes reacted to light in convergence fairly well. The vision of both eyes remained about the same as at last, January 14. Can now count fingers with either eye at four or five feet. She still has frontal headache. The optic discs are less swollen and the retina adjoining the disc is more transparent.

January 22: Her vision is now 5/18 in the right eye and 5/36 in the left. The visual field is intact in both eyes. She is taking twenty grains of the iodid three times daily. After this time her vision gradually improved so that on February 5 it was 5/9 in either eye. The discs were now almost flat and quite white. The headache had subsided.

March 15 her vision was about normal in both eyes and the visual field intact in both. During the following five years I saw the patient at intervals of several months and always found her in good health. Her vision when I last examined her five years after the attack was normal in both eyes and so were the visual fields. Her health was excellent. I have been trying to find her since, but have not succeeded in so doing.

The absence of the pupillary light reflex for a while made it probable that the seat of the lesion was in the visual tract, this side of the corpora quadrigemina.

The visual centers may also have been involved, but this can not be proved, as the conduction of visual impressions was interrupted by disease of the tract. The ophthalmoscope showed the existence of a marked optic neuritis in both eyes. Cases in which an optic neuritis has caused total blindness of both eyes and in which the pupillary light reflex was absent for a time, with subsequent restoration of normal vision, and very seldom encountered. With the exception of a frontal headache my patient was in excellent good health at the time the optic neuritis developed, and as she remained in good health during the next five years it seems reasonable to assume that the eye disease was not the result of a general affection which was latent when she became blind.

AMAUROSIS, PROBABLY FROM AUTOINTOXICATION.

CASE 2.—Mrs. S., aged 52, stout, of typical bilious temperament, is subject to frequent attacks of headache; is constipated most of the time; is fond of rich food and indulges freely in eating.

July 27, in the evening, she was attacked with a sudden intense pain in the head, with nausea and vomiting. The attack was so severe that her attending physician was obliged to give her $\frac{1}{4}$ grain of morphin hypodermically. She was re-

* Read at the one hundred and thirty-seventh annual meeting of the Medical Society of New Jersey.

lieved in about half an hour. Calomel and Warburg's tincture were given next morning, but did not act well. In the evening of this day, at about the same hour as on the previous day, another severe attack of headache came on and another dose of morphin was given her, which gave her some relief.

On the morning of the 29th she was given one ounce of Warburg's tincture, and in the evening she received ten grains of quinin. She had no attack of headache on this day.

On the 30th, in the evening, she had another very severe attack of headache. In the morning of this day she had taken ten grains of quinin and ten more in the evening. During the night of the 30th she noticed that her vision was becoming impaired, and on the morning of the 31st she was totally blind in both eyes. Pupils reacted but feebly to light. I saw her for the first time shortly after noon on this day. She acted like a person who was absolutely blind and was quite self-possessed. I found that the movements of the eyeballs were unimpeded in any direction. She was unable to recognize the position of a lighted candle held but a short distance from her eyes. The pupils of both eyes responded readily to light and in convergence. The ophthalmoscope showed absolutely normal eye grounds. In one of her eyes she had a patch of opaque nerve fibers such as is frequently seen in eyes with good vision. There was absolutely nothing hysterical about the woman. I feel very confident that she did not exaggerate her impairment of vision. The hearing was normal. I made a favorable prognosis. An examination of her urine showed it to have a specific gravity of 1030; it contained a trace of sugar, but no albumin. The quantity of urine passed during the day preceding the blindness is not accurately known, but it was said to have been of the usual amount. The bowels had not moved freely for some days, although sulphate of magnesia in large doses had been administered at frequent intervals. A high enema was given shortly after I saw her, which brought away a quantity of fecal matter, in which, on examination, were found seeds of berries eaten two weeks before. The total blindness continued for thirty-six hours, and then gradually her vision returned in both eyes. There was no rise in temperature during the attack, but on the day following her temperature rose to 102. A week after the attack her vision was as good as before the attack, and the visual fields were of normal extent for white and colors in all directions.

All our efforts to find a cause for the sudden blindness was fruitless. She has no disease of the kidneys. Habitual constipation, for which she always was taking cathartic mineral waters, was about the only abnormal condition which we could discover at the time. She has been in her usual good health ever since.

That this was a case of amaurosis from some kind of intoxication there can be no doubt. But as to whether it was due to a poison introduced into the body from without or whether the poisoning was the result of an inadequate physiologic elimination of the product of the tissue metamorphosis or of the formation of a poison in the intestinal tract due to abnormal processes of decomposition or fermentation, must remain in doubt. That the poison was not introduced from without seems, however, pretty certain. Neither the food of which she had partaken nor the drugs which had been administered can be held responsible for the eye affection. We know that quinin in comparatively small doses will occasionally produce blindness, but both the clinical features and the absence of all change in the backgrounds of the eyes, as well as the subsequent history of the case, show that this drug was not the cause of the blindness. The absence of disease of the kidneys probably eliminates uremia as the cause of the amaurosis, though it must be admitted that this attack closely resembles in all its features the blindness known to occur in this affection. In one of the examinations of the urine a trace of sugar was found, but only once, and none has been found since the attack. With the exception of habitual constipation, there is no evidence of the presence of a morbid affection of the digestive tract, and yet the most plausible explanation seems to me to be that the toxin which caused the amaurosis was formed here through putrefactive changes of the contents of the intestinal tract. As to the part of the visual apparatus

affected in this case, there can be no doubt. The blindness with prompt pupillary reaction to light established the fact that the optical centers were the seat of the lesion. But as to whether it was an edema of the meninges or an affection of the brain itself no one can tell. There are very few cases on record similar to the one here described, and in most of these the absence of albumin in the urine was not positively excluded. I am indebted to Dr. Cladek of Rahway for notes of the previous history of the case.

To recapitulate: In both of the cases above reported the blindness was due to an affection of the nervous visual apparatus. In the first the seat was in the conducting apparatus, as was manifest from the fact that the pupillary light reflex was absent during a part of the time that the blindness existed. In the second the seat of the lesion must be looked for in the optic centers, as the pupils reacted promptly to light while total blindness was present. In both cases the vision was completely restored. It is doubtful that the treatment adopted had anything to do with the restoration of the sight in either case.

I. PROLONGED INTUBATION. II. ESOPHAGOTOMY FOR A DENTAL PLATE. III. LARYNGECTOMY FOR CARCINOMA.*

GEORGE F. COTT, M.D.

CLINICAL PROFESSOR OF OTOTOLOGY, UNIVERSITY OF BUFFALO
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I.—A CASE OF PROLONGED INTUBATION.

One of the rarest accidents following intubation for diphtheria is stenosis, which results from pressure ulceration of the subglottic region and is very difficult to remedy. There are, perhaps, half a dozen cases on record; several made complete recoveries. One of these is as follows:

Intubation.—Rosa McGlynn, aged 6, was taken sick with diphtheria in December, 1901, and in a very few days required intubation. Being otherwise engaged, I sent my assistant, Dr. James E. King, to perform the operation. A week later the tube was removed, but had to be replaced immediately. Several days thereafter I removed the tube, but within a very few minutes had to replace it. This occurred frequently for several weeks. In order to keep better watch of the child I had her removed to the Riverside Hospital, and there the tube was removed and replaced off and on for several months.

Excision of Stricture.—Being satisfied that intubation would do no further good, especially since it had become necessary to use a one-year tube, I split the larynx completely and found a fibrous stricture below the vocal cords in the subglottic tissue. This was cut out and considerable granulation tissue removed with a sharp spoon, and a silver tube passed up from the tracheal wound between the vocal cords and the larynx, and a tracheal tube downward through which the child breathed. These tubes were left in for some time, when intubation was again resorted to, but gradually the lumen was again diminished until it became very difficult to insert a one-year tube. The larynx was opened a second time and the stricture removed as before. The upper or laryngeal tube was not replaced, but the lower or tracheal tube was allowed to remain for several weeks. Intubation was intermittently performed during this time.

Course.—After a while the tracheal tube was removed and the child allowed to go several days without a tube, but occasionally she had to be intubated, on very short notice. The interne was instructed to be on his guard either to intubate or to do tracheotomy on a moment's notice. About 2 o'clock one morning he was suddenly summoned and found the child suffocating. Dr. Weed hurriedly opened the trachea and the danger was tided over once more. After that I opened the larynx for the third time, removed the stricture again and

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

continued to intubate with a large tube at lessened intervals until June, 1902. The child had now been intubated, during six months, over fifty times by Dr. King, Dr. Weed and myself, and tracheotomized half a dozen times. She was retained at the hospital several weeks after the last time the tube was removed, when her mother took her home.

After we had not heard from her for six months, we called on her, and found her in good health, grown fat, and her voice in perfect condition.

The patient came under my care while I was city physician. The family was poor and the surroundings very unclean, so she was removed to the hospital. We had several times intended to send her home with the tracheal tube, but for one reason or another she was kept at the hospital until finally it was thought safe to let her go with her mother.

Comments.—This case is another illustration of what perseverance may accomplish. Ordinarily after two or three months such a case would have been abandoned as positively incurable, and the child would have to wear a tracheal tube all her life. Dilatation certainly would have been practiced, but without avail. The stricture was altogether too firm to yield to pressure. Each time after the radical treatment the child reacted remarkably, in fact was up and playing the very next day.

We had all sorts of tubes made, of different sizes and shapes, without the slightest benefit. It is very seldom that intubation can be shown a class of students. I therefore thought this a good opportunity to demonstrate the operation, the little patient always being in readiness. Tubes were tried from six years down to one, but to my chagrin, and apparently to the students' amusement. The smallest tube could not be forced through the larynx. The result was more trying because I had told the class (about forty in number) how simple an operation it was. Not until long after the boys were being entertained by another teacher did I succeed. Two men from out of the city were in attendance at the lecture; after watching the performance a while they finally left in disgust. Failure to replace the tube, however, was a common experience to Dr. King and myself. We sometimes tried ten or a dozen times without accomplishing our object, only desisting when the child became exhausted.

This case is worth reporting on account of its rarity, as well as showing the recuperative power of the larynx.

II.—ESOPHAGEAL OBSTRUCTION CAUSED BY SWALLOWING AN UPPER ALVEOLAR PLATE.

History.—Woman, aged 33, had worn an upper alveolar plate of hard rubber containing on one end one, and on the other end two teeth. The outer one of the two had been separated from the plate leaving the two pins which held it exposed. The plate had sharp edges throughout. It was worn by the woman continually day and night for fifteen years without ever becoming displaced.

One day while at dinner the plate suddenly became loosened and was carried down the esophagus with a bolus of food. It caused her considerable pain, for the relief of which she sent for her physician, Dr. Hugh McIntyre, after having ineffectually tried to dislodge it. He called me in consultation. I advised having the plate located by means of the x-rays, which was done by Dr. Fred Preiss. The plate was found immediately behind the sternal notch. The center of the plate was two and one-quarter inches below the thyroid cartilage. The teeth in the plate were anterior; curve of plate was downward; ends of plate were lateral; higher on the right side than on the left by one quarter of an inch.

Operation.—Dr. Kenerson, a surgeon, was asked to see the patient, and the woman was informed that the plate would have to be removed by operation, to which she readily consented. She was removed to the Riverside Hospital. I made an incision on the outer side of the trachea and separated the tissues between the muscles and carotid sheath until I came down to the esophagus, which was properly located and opened. Dr. Kenerson then introduced through the esophageal opening a pair of forceps and gradually and carefully drew the plate into view, which I then grasped and rotated through the wound.

The esophageal opening was then sutured and the rest packed with gauze. We anticipated a fistula, therefore did not entirely close the outer wound. Two days after the operation saliva passed out of the wound, which continued for nine days, when the wound closed. No food had passed down the esophagus during that period.

Course.—The patient was very much emaciated at the time of the operation, having had the care of four little children, one of which she was still nursing. There was, of course, some doubt about the woman's recovery because of her extreme debility. She was nourished by rectal injections and cod-liver oil baths until the esophageal fistula closed. It was carefully dressed after the second day, to heal it up as rapidly as possible. She took very kindly to nourishment. At the end of three weeks she was discharged cured, vowing never again to wear another plate.

III.—PARTIAL EXTIRPATION OF THE LARYNX FOR CARCINOMA.

History.—Mrs. S., aged 55, complained of hoarseness for the past year, breathing then became so oppressive that she finally sent for Dr. Weil, who treated her for two weeks, when he sent for me to examine her throat. I found a large growth involving the entire left lateral thyroid cartilage and infiltration of the right arytenoid.

Tracheotomy.—The examination produced a spasm of the glottis and I thereon proposed tracheotomy, but the patient's son being informed of the necessity of cutting a hole in her throat, positively refused to have this done. I therefore left word to send for me when they were ready to have the wind-pipe opened. The next day I was summoned, and, after injecting a small quantity of a 1 per cent. solution of eucain, opened the trachea without much difficulty.

Up to the time of the operation she had had seven or eight spells of suffocation every night for two weeks, her pulse was very rapid and she was extremely weak and emaciated. A week after the tracheotomy she had improved so much that I was enabled to remove a small piece of the growth for microscopic examination. This was made by Dr. Bentz of the Pathological Laboratory of the University of Buffalo, and he reported as follows:

Microscopic Examination.—Parts of the tissue are covered by stratified squamous epithelium. The epithelium dips down deeply into the tissue (fibrous) beneath. The epithelial cells have broken through the basement membrane and infiltrated the tissue, along the lymphatic clefts. These infiltrations are in the form of columns or groups of small and large spherical cells, atypical epithelium. Hyperkeratosis, hyperchromatosis, and mitosis were found in the cells. In some groups the cells show cornification and flattening and are arranged concentrically forming so-called 'pearly bodies' or 'cell nests,' characteristic of epithelioma. There is a marked inflammatory process in the tissue between the groups of atypical cells, as is shown by round cell infiltration.

"On these histologic findings an anatomic diagnosis of squamous celled carcinoma epithelioma was made."

I informed the patient of the serious nature of her trouble, and that the only possible chance of a cure was excision. Arrangements were made for operation four days later.

Operation.—August 5 an incision was made three inches in length, the thyroid cartilage was separated from its attachments, anticipating the removal of the entire larynx. After the larynx was opened for inspection, it was found that the swelling on the right side had entirely disappeared.

Being satisfied that only the left side was involved the thyroid and part of the cricoid cartilage were removed. The wound was then packed and a tracheal tube inserted. The operation took 50 minutes. No glandular structures were found enlarged.

Course.—The patient made a speedy recovery and was walking about the hospital in three days. Owing to the separation of the thyroid attachments there was so much narrowing that it became necessary for the patient to wear the tracheal tube permanently. Four months after the operation the patient complained of difficulty in swallowing, and for two weeks this continued with more or less severity, forming

a large swelling in the neck. From the amount of involvement of this secondary invasion, I was satisfied that removal was out of the question.

Recurrence was hardly expected so soon after operation. No glands were felt nor was there any indication that the disease had gone beyond a limited area. There had been up to this time a few cases recorded of successful treatment of carcinoma by the Roentgen rays. I therefore recommend that treatment, telling her at the same time that further operation was worse than useless. She went to the Buffalo General Hospital and there received treatment every other day. After the eleventh treatment I saw her again, and the growth had entirely disappeared, the parts looking normal. She had in all 16 treatments, and now, May 1, so far as outward appearances go, is entirely well.

DISCUSSION.

DR. B. R. SHURLY, Detroit—In looking over the literature of this condition throughout the world, I find that some observers report a 1 per cent. difficulty in removing the tube. While the tube is ordinarily removed in four days, we sometimes find it necessary to retain the tubes in place as long as a year. There are two cases in the Willard Parker Hospital now wearing the tubes more than a year. The etiology must be explained largely from the standpoint of traumatism. We have through traumatic conditions, which are frequent, an ulceration in the subglottic tissue due to the pressure of the tube in that region, or an ulceration in the anterior tracheal wall in the region of the lower border of the tube, or along the epiglottis at the head of the tube. A method of extraction which I find obviates much of the difficulty is the application of astringents to the intubation tube before again introducing it into the larynx. The spasmodic condition is due to an irritation of the laryngeal nerve endings, and we have frequent intubations and extubations with consequent injury. By applying ichthyol around the tube, alum gelatin or ointment the tube may be removed with comparatively little difficulty. This opens up a wide field for the treatment of the larynx in these conditions. We can use ichthyol, alum, argyrol, nitrate of silver, protargol, or suprarenal extract. An anodyne should be administered a half hour before extubation, thus keeping the child at perfect rest, and there will be comparative ease in removing the tubes. Ordinarily tracheotomy should not be performed. As O'Dwyer stated in a paper written shortly before his death, a condition of subglottic stenosis is almost certain to occur.

DR. D. A. KURYK, Richmond—I wish to report a case that shows how possible it is to make an error, especially without the desirable apparatus. I was called to see a woman who said that she had swallowed a set of artificial teeth. She had swallowed nothing for several days, was pale and nervous and had slept neither day nor night. At that time, ten years ago, we did not have the x-ray apparatus. I used an esophageal tube to ascertain the location of the foreign body. The esophageal bougie passed on down to the stomach without difficulty. I assured her that there was nothing in the esophagus, and that there was nothing but fear and fright. It was a case of autosuggestion about which Dr. Loeb will tell us. Afterward we found the teeth beneath the refrigerator, and in a few days the woman had entirely recovered.

DR. OTTO T. FREER, Chicago—The choice of esophagotomy for removal of the foreign body mentioned was, I think, a wise one. If a substance with sharp, jagged edges has been impacted for some time in the esophagus, extraction by the natural passages becomes hazardous, as it is impossible to tell how much damage has been done by ulceration or even by perforation of the esophageal walls by the pressure of the pointed prominences of the foreign body. Attempted removal through the mouth is apt to tear or perforate the ulcerated and softened esophageal wall with consequent peri-esophagitis, deep phlegmon of the neck, dangerous hemorrhages and mediastinitis. The patient encounters less risk in these cases from external esophagotomy, which does no violence to the esophagus and provides free drainage for peri-esophageal septic processes.

DR. GEORGE F. COTT, Buffalo, N. Y.—These stenotic conditions after diphtheria are almost always due to traumatism. There

may be some exception in constitutionally weak children, when the tube presses on the muscles forming the vocal cords so much that they suffer collapse and sudden death follows, as I have seen in perhaps a half dozen cases. The percentage of stenosis is no doubt as high as Dr. Shurly mentions, but the percentage of these extreme cases is very minute. I have had a patient in whom granulation tissue formed almost throughout the trachea. A boy aged 2½ years at first had worn a tube suitable to his age, but having coughed up successive tubes, by the end of four weeks he was wearing one for a seven-year child. The trachea was then opened, and intubation practiced intermittently. The trachea was opened radically several times by Dr. Roswell Park at the General Hospital, but reproduction rapidly followed and tracheotomy had always to be resorted to. At the age of 10, seven and one-half years after the first intubation, he coughed up the tracheal tube and suffocated before aid could be rendered. These are the only really severe chronic stenoses I have met in 108 intubations.

TRIPLE MAJOR AMPUTATION WITHOUT LIGATION OF THE BLOOD VESSELS.

WILLIAM B. PATTON, M.D.

SPRINGFIELD, OHIO.

The following unusual case has proved interesting to the local profession and may therefore be of general interest:

M. B., aged 8, was run over by the steam cars, Sept. 16, 1903. He was taken to the Mitchell Thomas (City) Hospital, where Dr. F. P. Anzinger and I examined him. The right hand was crushed and the arm was hanging by the skin three inches above the wrist; the right foot was crushed to the ankle; the left foot was hanging by shreds three inches above the ankle. There was also a laceration of the scalp as well as a number of contusions on the back and thighs. There was no evidence of any considerable loss of blood and the boy suffered comparatively little from shock. Dr. Anzinger amputated the right leg while I removed the left. To secure sufficient flaps it was necessary to reamputate each limb far enough above the point of the injury so that the vessels could not have escaped being cut. After completing the flaps, we each proceeded to look for the blood vessels. The larger vessels not being in evidence the tourniquets were slowly removed, but there was no hemorrhage. After searching for some time for the vessels we covered the stumps and proceeded with the arm. Here we found and ligated two small superficial spurs, but neither the radial nor ulnar arteries were found. We completed the dressing of the arm, suturing the flaps and again examined the legs, but found neither hemorrhage nor signs of pulsating vessels. We packed the stumps without suturing the flaps and put the patient in bed. Forty hours later we removed the dressings and found no more oozing than is usually found in such cases, if as much. We sutured the flaps on the legs at this time. There has never been a sign of hemorrhage. All the flaps became infected, but have healed nicely by granulation. Two large abscesses formed on the patient's back and one on his thigh at sites of contusion. Barring these complications, he has made an uninterrupted recovery and is now sitting up in a wheel chair apparently in good health.

New Instruments.

A COMBINED GASTROSCOPE AND GYROMELE FOR DIAGNOSTIC AND THERAPEUTIC PURPOSES.

FENTON B. TURCK, M.D.

CHICAGO.

Gastroscopy is used to determine the condition of the mucous membrane of the stomach by inspection. For this purpose a stiff tube is used with an electric light at the end and a reflector to carry the image to the eye through a system of lenses within the tube.

The method of such examination demands the use of a long, straight, rigid tube reaching far into the stomach. The possibility of introducing a long, stiff, straight instrument has been shown to be possible in the exhibitions made by sword swallowers. Leube¹ recommended a stiff sound introduced into the stomach to be palpated through the abdominal wall for the purpose of determining dilatation of the stomach. When it was found practical to introduce a stiff, straight instrument into the stomach the idea of inspection of the gastric cavity through a hollow, straight tube naturally presented itself.

Mikulicz² was the first to illuminate the stomach and make the mucosa visible by the use of the gastroscope. Mikulicz³ showed that it was practical and useful in the diagnosis of ulcer and carcinoma of the stomach. Owing to the technical difficulties, the high price of the instrument and the great discomfort to the patients, Mikulicz's instrument has not been much employed. With more familiarity with intra-

any harm there must be some reason other than familiarity with the procedure. Patients become inured to the passage of intragastric instruments depending on the shape and size of the caliber. The shape of the esophagus is flattened anteriorly to that of a flat, sword-shaped instrument, even though rigid, can be readily introduced into the stomach. There is in a flat instrument less pressure exerted on the cricoid cartilage, the laryngeal nerves are not so much excited, and less tension is produced.

The instrument which I have devised is composed simply of a flattened double tube 65 cm. in length. The optical tube is slightly larger in caliber than the other, or carrying tube, being 5 mm. in diameter. The two tubes side by side form a width of 14 mm. Beyond the tip of the optical tube is inserted the electric lamp which requires no cooling apparatus. Above this a prism and reflector is adjusted at an angle. The outer, or ocular, end is provided with the usual prism set before the objective. The other tube is to carry the gyromele cable, which can be used to sound the pylorus or duodenum by inspection instead of by palpation as I first recommended⁴ in 1894. The gyromele cable may be curved by a simple mechanical contrivance previously recommended⁵ in any direction desired. Thus the pylorus may be explored by the very soft flexible cable covered at the end with wool tampon encased by a soft rubber finger cot. As will be seen in the illustration the flexible curve, the soft rubber tube carrying the flexible cable, acts as a protection to the stomach during any sudden contraction of the abdominal walls, preventing the gastric wall from being suddenly thrown against the end of the upper and rigid portion of the gastroscope. It will be seen briefly this apparatus is a combination of the principle of my double stomach tube and the gyromele with the addition of an improved gastroscope.

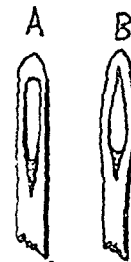
I have been able with this instrument to inspect the pylorus, and under the direction of the eye watch the gyromele cable pass through the pyloric orifice into the duodenum. Withdrawing it back and forth one can readily watch the distance it passes into the intestines. The measurement can be made by small nodes on the cable set 10 cm. apart. I hope in a later communication to present the practical use of this instrument not only as a diagnostic aid but also in making application to specific points on the gastric mucosa.

A MODIFICATION OF THE EYE OF THE NEEDLE.

JAMES P. MARSH, M.D.

TROY, N. Y.

During the process of suturing I have been frequently very much annoyed by the needle unthreading. To obviate this difficulty I have had needles made with eyes differently formed from the ordinary, the object of this modification being to so join the suture material into the narrow part of the eye that



A, Ordinary eye; B, modified eye, enlarged 2½ times.

it will not become unthreaded by reason of any ordinary traction and at the same time to so leave it that it can be readily loosened at the end of the suturing for the purposes of tying. The drawing presented will best show the modification made. It is possible that the same means has been previously resorted to, but not to my knowledge.

5. Proc. Intl. Med. Congress, Rome, 1894.

6. "The Gyromele," THIS JOURNAL A. M. A., May 4, 1900.

gastric work inspection of the interior of the stomach is more easily accomplished. Thus Rosenheim⁶ asserted that in 80 per cent. of the cases it was possible to introduce the gastroscope and inspect the stomach without great difficulty. Kuttner made some modifications in an instrument which was presented before the British Medical Association, Edinburgh, 1898, by Professor Ewald. Careful inspection of this instrument at that time by the writer convinced him that the large round caliber (1.5 cm.—9/16 inch or more), which was necessary under such construction, added much to the difficulty of using this class of apparatus, which at best is an inconvenient method and not devoid of danger.

When we remember that a sword swallower may repeatedly swallow a sword without apparent difficulty and rarely with

1. Deutsch. Arch. f. klin. Med., vol. xl.

2. Ueber Gastroskopie und Oesophagoskopie, Wiener Medizinische Presse, 1881, No. 43.

3. Wien. Med. Wochenschr., 1883, Nos. 23 and 24.

4. Gastroskopie Berliner klin. Wochenschr., 1896, No. 13.

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THE DETECTION OF TYPHOID BACILLI IN WATER.

Although the evidence that connects sewage-polluted water supplies with outbreaks of typhoid fever is entirely convincing both in character and mass, there have been relatively few instances in which bacteriologists have succeeded in isolating the specific typhoid bacillus from suspicious waters. In view of the insufficiency of the data relied on for identification, most of the early statements concerning the finding of the typhoid organism must be regarded as of exceedingly doubtful value. The criteria on which up to a very few years ago such identification was based could by no means be accepted by bacteriologists at the present time. Especial uncertainty again has been recently introduced into the subject by the discovery of the group of dysentery and "pseudo-dysentery" bacilli, of *B. fecalis alcaligenes* and of a host of related organisms.

A survey of the literature shows that there are very few reported cases of the detection of typhoid bacilli in water which conform to present-day requirements. Lösener,¹ working in the Hygienic Institute at Berlin, isolated from the laboratory water supply an organism that agreed culturally with the typhoid bacillus in all respects, and that also responded favorably to Pfeiffer's immunity test. Remlinger and Schneider² found in various natural waters organisms that possessed the biologic qualities of the typhoid bacillus, and that agglutinated with typhoid serum and also conformed to Pfeiffer's immunity test. Some conservatism is shown, however, in accepting the work of these latter authors at its face value, both because of their rather sweeping statements with regard to "the ubiquity of the typhoid bacillus" and because of certain other internal evidence in the paper referred to. Hankin,³ working in India, found typhoid-like bacilli in samples of water derived from various sources, and substantiated his cultural examination with the observation that agglutination occurred with a 1-600 dilution of anti-typhoid serum. Kübler and Neufeld⁴ relate a particularly interesting case of the finding of typhoid bacilli in the water of a shallow well to which infection had been traced. In the course of the investigation it was noticed that no colon bacilli were present in the water, a fact that in the opinion of the authors points to infection

with typhoid urine rather than with fecal discharges, and that explains the relative ease with which the typhoid bacillus was isolated, as well as the unusually long persistence of the organism in the water. Both the agglutination test and Pfeiffer's test were employed to establish identification. Genersich⁵ isolated eleven cultures of typhoid-like bacilli from the water of incriminated cisterns. These organisms agglutinated in a dilution of 1-50 with typhoid serum obtained from a human patient, but the serum of animals inoculated with the water cultures failed to agglutinate a control typhoid culture except in a single instance. Fischer and Flatau⁶ have reported an apparently unimpeachable case of the isolation of the bacillus from the water of a well at Rellingen. Both the agglutination test and Pfeiffer's test were applied with positive results.

There are, therefore, perhaps six cases where undoubted typhoid bacilli have been isolated from ordinary drinking water. If the evidence adduced by Remlinger and Schneider and by Genersich is not regarded as wholly convincing, the number of such cases is reduced to four. On the other hand, the finding of a paratyphoid bacillus in water by Sion and Negel⁷ may be put practically in the same category with the discoveries of genuine typhoid bacilli.

The meagerness of the findings, despite the thousands of examinations that have been made by skilled bacteriologists in every part of the world, can probably be explained partly by the difficulties of the technic of isolation and partly by the relatively short duration of life of the typhoid bacillus in water. The period elapsing between the moment of infection and the initiation of bacterial investigation is usually at least several weeks, owing chiefly to the time occupied in incubation and in the insidious development and perhaps tardy recognition of the disease. Some time is also ordinarily consumed by the preliminaries necessary for the setting on foot of competent investigation. It is apparently only under exceptional conditions, such, for instance, as obtained in the instance reported by Kübler and Neufeld, that the life of the bacillus can extend throughout any considerable period. The history of most outbreaks of typhoid fever shows that the bacilli have disappeared from the water by the time the search is inaugurated, and it is for this reason that a negative finding is the usual result of bacterial examination.

Considerable interest attaches to the possibility of a diminution in the virulence of the bacillus through a sojourn in water. The scanty evidence that exists on this head indicates that some decline in virulence probably occurs. Hankin mentions that on a number of occasions he has found typhoid bacilli in waters at a time when these waters were being used for drinking, and that in several instances no cases of fever developed among the users of such water. Indeed, he specifically

1. Arbeiten a. d. kals. Gesundheits., 1895, 11, p. 207.

2. Annales de l'Inst. Pasteur, 1897, 11, p. 55.

3. Centralbl. f. Bakt., 1899, 26, p. 554.

4. Zeitschr. f. Hyg., 1899, 31, p. 133.

5. Centralbl. f. Bakt., 1900, 27, p. 241.

6. Ibid., 1901, 29, p. 329.

7. Ibid., Orig., 1902, 32, p. 480.

takes the ground that "my finding typhoid microbes in a water supply gives no proof that the microbes were there present in a condition in which they could produce infection." Remlinger and Schneider also encountered typhoid bacilli in waters that were not giving rise to the fever and that were designated by them as being chemically "very pure." Kübler and Neufeld state that the typhoid bacillus that was first isolated by them from well water would kill a guinea-pig in a dose of one-fifth of a loop, whereas a culture isolated from the water of the same well four weeks later did not prove fatal to a guinea-pig in a dose five times as great. There thus seems to be some reason for believing that by prolonged aquatic life typhoid bacilli may be rendered innocuous or at least less virulent, even where they are enabled to survive at all. The likelihood of attenuation appears to have been singularly neglected on the experimental side and is deserving of further investigation.

PROPHYLACTIC DISINFECTANT INHALATIONS IN MEASLES AND SCARLET FEVER.

At present the chief measure for the prevention of the spread of the acute eruptive diseases is the isolation of the patient. This form of prophylaxis is based on rather rude empirical ideas. Nevertheless, this is undoubtedly a most excellent method, provided the patient can be isolated from the beginning of the disease; but this is often difficult, if not impossible. This delay leads to infection of the surroundings, and thus the value of a later isolation is materially reduced. Then, again, the prolonged isolation at present in vogue, especially in the case of scarlet fever, is, to say the least, irksome and at times seriously taxes the capacity of the hospital to care for the acute cases that stand in greater need of the advantages of hospital treatment. There is consequently great need for an efficient prophylaxis based on more rational principles than the purely empirical now in vogue. But we can not look with much hope for a rational prophylaxis so long as we are ignorant of the etiology of these diseases, and of the point or points of entrance into and departure from the body of the infecting agents as well as of the places in the infected body in which the virus accumulates and probably multiplies.

Egart,¹ in discussing this question, is inclined to assume that in measles and scarlet fever the earliest local symptoms indicate the point of localization of the specific virus, that is, at the upper end of the respiratory tract. If this be the case it should be possible by means of suitable anti-infectious agents to prevent generalization of the virus and thus lighten the attack. Furthermore, it should also be possible by such measures to prevent the development of diseases in exposed persons. On account of the lack of facilities for proper isolation, outbreaks of measles and scarlet fever were frequent in the hospital under Egart's care at Brünner. He there-

fore set about to introduce a method of prophylactic disinfection of the respiratory tract by means of sprays and inhalations, most of the patients being children. Non-toxic and non-irritating substances, such as limewater mixed with equal parts of water, boric acid solution of 3 per cent., trichlorid of iron solution, .05 per cent., and sodium chlorid solution, 3 per cent., were used. He used all these four solutions alternately for five minutes, twice daily. His comparative statistics appear to show that by these methods measles and scarlet fever are held in check much better than before the effort of disinfection of the respiratory tract. He believes that he is justified in ascribing to disinfecting inhalations distinct value in lessening the severity of the attack in the individual patient and in preventing attacks in exposed persons.

The method introduced by Egart is surely worthy of the consideration of physicians. It should be given further trial in hospitals for eruptive diseases so that it may be possible to form a more definite opinion as to its real value than is justifiable from the experience of a single observer. The methods advocated are certainly simple and harmless.

LATENT SYPHILIS.

There are often expressions of surprise on the part of general practitioners when the neurologists insist on the possibility of syphilis running its course in absolute latency, and without giving any manifestations by which an ordinarily careless patient would be bound to recognize it. The general rule in the development of the disease is that patients are so anxious as to the possibility of its occurrence that they actually anticipate symptoms, and some of them at least become confident that they have the disease when it does not exist. There are too many cases on record now, however, of undoubted tertiary lesions of syphilis without any history of previous stages of the disease to leave any room for doubt that the disease may, exceptionally at least, run its earlier course without attracting the patient's attention. This is all the more important, since many of the supposed nervous sequelæ of the disease are known to develop with more frequency in patients that have been insufficiently treated or that have been negligent of treatment from the beginning.

In two lectures recently delivered in London,¹ Jonathan Hutchinson, whose experience in syphilis amply justifies the acceptance of his opinion as of great value, dwells with considerable insistence on the teaching that the two earlier stages of syphilis may run a practically latent course. He emphasizes the fact that the primary sore of syphilis is not necessarily indurated in all cases, and that those who judge of it entirely by this characteristic may be deceived. As a matter of fact, the primary syphilitic lesion may be so small, so little complicated by inflammatory reaction in the surrounding tis-

1. *Zeitschr. f. Hyg. u. Infektionskrankh.*, 1903, xliv, 196-217.

1. *The Clinical Journal*, Aug. 5, 1903.

sues, so painless and indolent in its course as not to attract any unusual attention, especially if it should occur in the neighborhood of the nails where slight sores that run a slow course are not unusual.

Dr. Hutchinson even claims that the infection of syphilis may enter in certain cases without any breach of the cutaneous surface, and certainly without any obvious chancreous induration. He refers to instances of surgeons who have acquired the disease from a slight needle-prick in operating on syphilitic patients, or in midwifery practice, without the occurrence of any local sore sufficient to arouse suspicion of its nature. As a chancre will disappear spontaneously, as a rule, in a little over four weeks, it is perfectly possible that this stage of the disease should be entirely missed. Anyone familiar with the treatment of syphilitics knows that at times the secondary symptoms are so slight and so few that they may well escape ordinary observation. It is not an unusual thing for a patient to assert positively that he has no cutaneous eruption, when the removal of his clothing discloses a blooming macular syphilid.

It is evident, then, that the possibility of latent syphilis will have to be accepted, and that certain of the nervous and other lesions which are usually connected with this disease, but which occur not infrequently in persons with regard to whom no history of syphilitic infection can be obtained, may yet be considered to be of syphilitic origin, or at least to have developed on a syphilitic basis. Visceral lesions of suspicious character occurring in individuals without a syphilitic history, must on this principle be treated first by antisyphilitic remedies, since, after all, the therapeutic test is the best possible diagnostic sign, and the therapeutics of syphilis is so hopeful as compared with any other pathologic condition as to make the trial justifiable.

ANTITYPHOID SERUM.

It is comparatively easy to immunize laboratory animals against a virulent typhoid bacillus by injecting them intraperitoneally or subcutaneously with gradually increasing doses of young, living cultures. These animals soon become resistant toward many times the minimum fatal dose of the organism, and their sera acquire high agglutinative and bacteriolytic properties. Small doses of serum of the immunized animals protect other animals against several times the minimum fatal dose of typhoid cultures, even if the serum is injected several hours after the inoculation.

Although the laboratory experiments are very encouraging, it has been found that the clinical results from these antityphoid sera are practically nil. Stokes and Fulton, for instance, immunized a hog and got very good results in laboratory animals with this serum. Half a cubic centimeter protected a guinea-pig against seven times the minimum lethal dose of a virulent culture. They treated five typhoid fever patients with this serum and noticed no special results in two. In the other three it is supposed that the serum treatment shortened

the disease somewhat. Chantemesse immunized a horse with the filtered cultures and claims to have obtained slight clinical results with this serum. The unsatisfactory clinical results may be due to several causes: (1) The antisera thus far prepared may not be strong enough; (2) it is said that highly immune sera contain little or no complement, and as the human complement often disappears in the course of the disease,¹ the injection of immune bodies alone can be of no value; (3) it is also possible that the human complement does not fit into the immune bodies that have been injected.

Recently Macfadyen and Rowland² have obtained very encouraging results from laboratory experiments. They prepared a powerful extract of typhoid bacilli by grinding up a large quantity of organisms at a very low temperature (obtained with the aid of liquid air), and exhausting the mass thus obtained with physiologic salt solution. This extract is highly toxic for guinea-pigs, proving fatal in doses of .003 to .05 c.c. of a 10 per cent. extract. It is also toxic for monkeys. The experimenters successfully immunized a rabbit and a monkey against this extract and got agglutination of the living cultures with the serum after one injection. The animals soon tolerated larger doses, and their sera protected other animals against several times the fatal dose of the extract and of the living typhoid cultures. These sera also possess curative properties, as is shown by the fact that an animal can be saved when the serum treatment is instituted eight hours after the inoculation with living cultures.

Horses are now being immunized with this toxin, and it remains to be seen what will be the clinical results with serum thus prepared. The most interesting feature of this work is that an attempt is here made to produce an antiserum which shall be at one and the same time antitoxic and bactericidal.

THE FINANCIAL WANING OF DOWIEISM.

Dowieism has reached a crisis that may be fatal. As a religion, like its congeneric delusion, Eddyism, it has depended altogether too much on filthy lucre, and the methods of the "profit" have apparently failed to meet the requirements of honorable business. Dowie's luxurious tendencies and the late fiasco of his New York crusade have, it seems, overtaxed the resources of his credulous followers, of whom he takes such shrewd advantage. He has been the defendant in a number of suits for debt, and now a receiver has been appointed by the U. S. courts. He may weather the storm, but the probabilities are that we have seen the end of Dowie as a financier, and the end of him as a prophet is a necessary consequence. What will become of his dupes is not a pleasant thing to contemplate. Many of them, we understand, have been exhausted of all their means through his demands, and their faith will almost certainly receive a rude shock, which is likely to be more or less serious in its effects on their moral and mental future.

1. Richardson: *Jour. of Med. Research*, vi, No. 1.
2. *Centralbl. f. Bakt.*, 1903, xxxiv, 765.

THE ABUSE OF HELPLESS CHILDREN IN OHIO.

A society for the prevention of cruelty to children is much needed in Ohio. In that state, human sacrifices in the name of religion are apparently authorized by law. A man allowed his 8-year-old daughter, who had been badly burned, to die without medical treatment, save that administered by Eddyites, and we know what that means. The grand jury naturally indicted the parents for manslaughter. In the trial the judge charged the jury to bring in a verdict of acquittal on the ground that no law existed in Ohio under which the parents could be prosecuted. The jury did so and the Supreme Court, to which the case was carried, ruled that the charge and the verdict were without error. It would seem that the State of Ohio is in bad shape as regards its laws protecting infant life; legislation in this regard is one of the present needs of that community.

LEGISLATION ON SANATORIUMS—PRO AND CON.

Considerable comment has been caused by the passage of an act by the last New York legislature making it essential that before any hospital, camp or other establishment for the treatment of patients with pulmonary tuberculosis be established, the county board of supervisors and the town board shall both authorize such establishment and describe the limits or locality in which it may be established. This practically means a prohibition of the establishment of sanatoriums over a large section of the state, and restricts to a considerable extent the benevolent intentions of various individuals. The peculiar regulations adopted by the town of Liberty in regard to the Loomis Sanatorium are well known. All these are evidences of the irrational fears that have been excited by statements as regards the contagiousness of consumption and the dangers to the well from association with those affected by it. It is very unfortunate that the medical profession as a whole has not given out a judicial opinion on this subject or perhaps rather that so many members of it are constantly giving out injudicious statements. The public is easily misled and it takes some time for it to get its right mind in regard to questions that excite public apprehension and terror. As a contrast to this state of affairs in New York, we may notice the action of the late New Mexico legislature which offers a premium in an exemption from all taxes for sanatoriums for consumptives that may be established within a certain period and with the expenditure of a certain amount of money.¹ This, of course, is a business proposition, but it shows that the panicky fears as regards the communicability of tuberculosis have not seriously affected the legislators of New Mexico. They are willing to have consumptives come among them, and for the good of the state will take whatever risks there may be. The basis for the liberal action of the New Mexicans is not pure philanthropy, probably, but in so far as it is an index of enlightenment the "wild and woolly West" is ahead.

GERMANY'S IGNORANCE OF AMERICAN WORK.

We have on more than one occasion called attention to the persistency with which foreign investigators and

writers ignore American work. The Germans have been and are, we think, the greatest offenders in this respect, and some of the most decided protests against such omissions have been made by the German-American physicians in this country. American work has been rediscovered repeatedly by Germans, and with the common reverence for the "made-in-Germany" mark, the credit has been attributed to Germans by the mass of the medical profession of the world, sometimes even after a thorough exposure of the real facts. It is a little refreshing, therefore, to read a foreign showing up of this same German ignorance of American literature. Such a satisfaction can be derived from the recent leading article in the *Semaine Medicale* (November 11), which points out that the spondylitis typhosa of Quincke, which is accepted by the Germans as a clinical discovery due to German research, was well described in all respects by an American years before Quincke's publications. Cheinisse, the author of the article, makes this very clear, and proves that Gibney pointed out the same facts and gave a correct interpretation of them ten years before Quincke's publication. Although Osler disagreed as to the spondylitic nature of the lesions which Gibney, Lovett, Withington, Cutler, Ely and others in the United States pointed out, yet the disorder is one that clearly belongs to the same category as the so-called discovery of Quincke. Cheinisse further shows that Germans also ignore the Swiss authors and refers to the work of Pallard on the same subject as evidence. Apparently, there is not a point made by Quincke and his German followers in regard to this disease that has not been previously made by American authors. Whether the Germans will at once accept this correction or not perhaps makes little difference. In the long run they will have to admit the facts. In the meantime, however, a certain amount of credit is wrongly attributed, and it is well to call attention to this state of affairs. As Cheinisse says, the saying of Solomon is still true: "There is nothing new under the sun." This especially applies to several German medical discoveries of recent years.

CIRCULATION IN THE NERVOUS SYSTEM.

At the October meeting of the New York Society for Experimental Biology and Medicine, Dr. S. J. Meltzer, the president, demonstrated some interesting specimens which seem to throw a new light on the circulation in the peripheral nervous system. His paper was on the effect of ligation on the vital staining of nerves. He demonstrated a series of pieces of dried sciatic nerves of rabbits which had received during life intravenous infusions of methylene blue. As is well known, this substance is carried all over the system by the circulation and stains all tissues, even the most delicate parts of the nerve centers, with a distinct blue tinge. By this means the course of the circulation in the nervous system and even certain peculiarities of the anatomic finer structure have been demonstrated. Dr. Meltzer found that when single ligatures are applied to the trunks of sciatic nerves in animals intravenously injected with methylene blue, they are without any influence on the color of the nerve that develops after the use of methylene blue on both sides of the ligation.

1. See page 1432 of this issue.

When the sciatic nerves are ligated at two places, however, the section lying between the two ligatures remains free of color, though the central and peripheral ends of the nerves turn blue in the usual manner. This effect is produced, no matter how far apart the ligatures are applied. It is clear, then, that during life the nerve receives its circulation only from its central and peripheral ends. This seems to demonstrate how important is the influence of the circulation on the outside of the body as regards the blood supply of the nervous system. When the peripheral circulation is weak or seriously disturbed for any reason, the nerves must fail to get their due proportion of nutritious material and must serve rather to exhaust the central nervous system by draining away some of the nutritious material intended for it. This set of experiments is also wonderfully suggestive as regards the relationship of the skin and nervous systems to one another. Probably nothing that has been discovered in recent years illustrates better their interdependence.

Medical News.

CALIFORNIA.

Personal.—Dr. George S. Harkness, Stockton, whose appendix was removed November 9, is making a good recovery.—Dr. F. Henry Ottmer has succeeded Dr. O. W. Sinclair as physician-in-charge at Murray's Hospital, Eureka.

Spitting Ordinance.—The Oakland City Council has passed an ordinance prohibiting spitting on the floor or steps of any public car or conveyance, or on the floor or steps of any public building, or on any sidewalk or crosswalk, under penalty of a fine not to exceed six dollars.

Late, Yet Timely.—At a session of the California Northern District Medical Society recently held at Sacramento, where there has been a mild epidemic of smallpox, a lay journal solemnly announces the physicians "decided that the Manila itch, Cuban scratch and prairie dig, which has been afflicting the country for two or three years, and is still with us, resembles smallpox so exactly as to be smallpox, and nothing else."

More Plague.—The secretary of the State Board of Health reports a death from plague, November 6. The patient was a Chinaman, and died on the river steamer *J. D. Peters* between Bouldin Island and San Francisco.—Two deaths among Chinese women in San Francisco were reported during November. The last case was No. 109, and was reported to the San Francisco Health Office November 13. The patient died the next day.

DISTRICT OF COLUMBIA.

Personal.—Dr. William Richardson of the resident staff of St. Elizabeth's Hospital, Washington, has been appointed to a similar position at the Columbus (Ohio) State Hospital for Insane.

Kappa Psi Fraternity.—The annual convention of this society was held in Washington under the auspices of Zeta Chapter, medical department of Georgetown University, November 26 and 27. The meeting was successful, and the reports from the various chapters showed increased interest in medical fraternalism. The visiting delegates were entertained at a theater party and a banquet, which was presided over by Dr. F. H. McKeon as toastmaster. Philadelphia was chosen as the next place for meeting.

Report of Health Officer.—The report of the health officer for the week ended November 14 shows the total number of deaths to have been 121, of which number 74 were white and 47 colored. There were reported 24 new cases of typhoid fever, 10 of diphtheria, and 5 of scarlet fever. The health officer calls attention to the fact that there were reported 75 white births and 74 white deaths, 34 colored births and 47 colored deaths. There are 1,257 registered physicians in practice in the District of Columbia, while only 84 births were reported by physicians. There are 136 midwives registered and during the week only 23 reported births.

GEORGIA.

Hospital Loss Adjusted.—The loss in the recent fire at Grady Hospital, Atlanta, has been adjusted at \$6,200.

Johnson Monument Unveiled.—The shaft erected in Oakland cemetery in memory of the late Dr. Walter K. Johnson, Atlanta, was unveiled November 15.

Personal.—Dr. Obadiah C. Gibson, for many years city physician of Macon, has been appointed by the State Board of Health to manage all epidemics in Bibb County.

Smallpox.—The disease is causing such alarm around Albany that the municipality has instituted compulsory vaccination. More than 200 cases exist, mostly among negroes.—Several cases are reported in Collins, Tattnall County.

ILLINOIS.

Smallpox Increases.—Smallpox has been reported in twenty counties and thirty localities. About 300 cases are said to exist at present.

Membranous Croup is Diphtheria.—In the future all cases of membranous croup in Rockford must be reported to the health officer and treated as a form of diphtheria, according to a ruling of the city health department.

Fire at Insane Hospital.—A live wire set fire to a cottage at the Illinois Hospital for the Incurable Insane, Bartonville, November 27. Until all danger was past Dr. George A. Zeller, the superintendent, took the 60 occupants of the cottage to the library.

Typhoid at Canton.—Canton has nearly 100 cases of typhoid fever and 5 deaths have occurred. The majority of cases are among the employes of the Parlin and Orendorff plow factory. The State Board of Health has been requested to send an official to investigate the sanitary conditions at the factory.

St. Mary's Hospital Staff.—The newly-appointed medical staff of St. Mary's Hospital, Quincy, is made up as follows: Drs. Joseph Robbins, Robert J. Christie, Sarah Vasen, John H. Rice, Henry Hatch, E. B. Montgomery, Ernest Zimmerman, William S. Knapheide, Robert J. Christie, Jr., L. H. A. Nickerson, William W. Williams, Charles E. Center and H. L. O. Whipple.

Chicago.

Bequest.—The endowment fund of St. Luke's Hospital is given \$3,000 by the will of Mrs. Annie J. Tree.

More Money for Hospital.—The net proceeds of the fifth benefit concert for the Presbyterian Hospital were \$8,083.

Personal.—Dr. Joseph E. Raycroft has been appointed director of the physical culture exhibit at the Louisiana Purchase Exposition.—Dr. John C. Outhet has sailed for the Orient.

City Bacteriologists' Examination.—Nine candidates for the position of superintendent of the city laboratory, vacated by the resignation of Dr. William K. Jaques, took the civil service examination November 17.

Dr. Senn's Illness.—Dr. Nicholas Senn, who was reported as seriously ill with septicemia from an infected operation wound of the right hand, has returned to Chicago and is reported much improved and progressing rapidly toward recovery.

Herzog to Manila.—Dr. Maximilian Herzog, for more than seven years professor of pathology and bacteriology in the Chicago Policlinic, has been appointed pathologist in the Bureau of the Government Laboratory, Manila, and will sail from San Francisco about December 30.

Addition to St. Luke's Hospital.—A plot of ground 40 by 161 feet, adjoining St. Luke's Hospital, has been purchased for \$28,000 and will be used as a site for an addition, to cost about \$300,000. It will consist of rooms and suites to be occupied by patients and possibly by their relatives, thus combining the idea of a hospital and a hotel.

Deaths of the Week.—Barely half a dozen diseases together with suicide and violence contribute 309 out of the total 512 deaths reported last week, while the same causes contributed 215 out of the total 467 reported the week before. Deaths from nervous diseases increased from 19 to 32; pneumonia from 70 to 94; and violence, including suicide, from 29 to 50. The mortality was at the annual rate of 14.15 per 1,000.

INDIANA.

Nearly Seven Thousand.—The report of the State Board of Registration will be issued in a few days. It will contain the names of nearly 7,000 physicians, 600 of whom are registered in Marion County.

Hospital Dedicated.—The Lower Mission Hospital for Incurables, Indianapolis, was formally dedicated, November 25. Morris Ross made the presentation address, and the mayor accepted the hospital on behalf of the city.

Gifts to Richmond Hospital.—William B. Leeds has given \$10,000 toward the new public hospital at Richmond and Daniel G. Reid has given \$50,000. The building will probably be known as the Reid Memorial Hospital. The Morrison bequest of \$10,000 was turned over to the hospital trustees, November 18.

Health Officers' School.—The legislature of 1903 authorized the State Board of Health to require a certain sanitary training of health officers and also authorized the holding of a school for health officers. The health officers of the state number 516, and two schools are held annually to accommodate this number. The first school was held in June, and to it were summoned all county and city health officers. The second school, which is exclusively for town health officers, will be held December 16 and 17 at Indianapolis. Among the teachers for this school are ex-Surgeon General George M. Sternberg, U. S. Army; Surgeon General Walter Wyman, U. S. P. H. and M. H. Service; Dr. Frank G. Novy, University of Michigan; Dr. Charles O. Probst, secretary American Public Health Association and secretary Ohio State Board of Health; Dr. Frank Allport, Chicago; Prof. David Dennis of Earlham College and Prof. Coulter and Prof. Burrage of Purdue University. The lectures will all relate to subjects pertaining to the practical application of disease prevention measures. The Hon. William L. Taylor, ex-attorney general, who has written and revised the health and medical laws of the state, will expound the state and national laws relating to public health and quarantine.

Sickness and Death in October.—The health in October, 1903, was not as good as in the same month last year. It was better, however, as compared with September. Typhoid fever is reported as being the most prevalent disease, 78 counties reporting the disease present, deaths being reported from 64 counties. It was also the most prevalent malady last month. Rheumatism was reported as second in area of prevalence, while diarrhea occupied this position last month, but it has fallen this month to seventh place. The order of prevalence was: Typhoid fever, rheumatism, intermittent fever, bronchitis, tonsillitis, scarlet fever, diarrhea, diphtheria, pneumonia, influenza, pleuritis, erysipelas, measles, dysentery, cholera morbus, inflammation of bowels, whooping cough, cholera infantum and cerebrospinal meningitis. During the month 324 cases and 1 death from smallpox in 38 counties were reported. This is a decided increase in the number of cases and area as compared with the preceding month, but a decrease as far as deaths are concerned. In the corresponding month last year 298 cases were reported, with 19 deaths in 35 counties. We have, therefore, to record an increase so far as cases and area covered is concerned, but a decided decrease in deaths. The total number of deaths from all causes reported was 2,572, a rate of 12 per 1,000 per annum. The city death rate was 15.4 and the country death rate was 10.3. Tuberculosis claimed 256 victims; 160 typhoid deaths were reported; diphtheria caused 63 deaths, pneumonia deaths numbered 132; influenza, 5; cerebrospinal meningitis, 25; puerperal septicemia, 10; cancer, 105; and violence, 146.

IOWA.

Smallpox at Corning.—It is reported that there are twenty cases of smallpox at Corning and that schools and churches are to be closed.

Acquitted.—Dr. B. A. Wilder Sibley, charged with having caused the death of Anna Geddes by a criminal operation, was found not guilty November 9.

New College Building Dedicated.—The new medical college building of Drake University, Des Moines, was formally dedicated December 3. The building has been completed and in use by the students for some time.

License Revoked.—The State Board of Medical Examiners, on November 14, considered the case of Dr. R. A. Snook of Sudville, Warren County, who pleaded guilty of immorality. He promised not to offend in future, but the board decided not to accept his offer of reformation and his license was revoked.

MAINE.

Bangor Personal.—Dr. Glen M. Woodcock has resigned as member of the board of health. Dr. George L. Hilton has been elected city physician, vice Dr. Edson E. Goodrich.

Smallpox.—Keeneville has been found to be the center of a fresh outbreak. Cases were discovered in Skowhegan and traced to Keeneville, where several families were found to be infected.—Fifty cases of a mild type are reported in Bangor. General vaccination has been ordered, but neither schools nor public places have been ordered closed.

"Holy Ghosts" Quarantined.—The State Board of Health has put the Bible School of the Holy Ghost and Us Society under strict quarantine. So many cases of smallpox have developed there that it has been made the pesthouse for the surrounding country. These "Sanfordites" protest against any medicinal aid, and through their belief that the Lord will heal have been the means of disseminating the disease widely in that region.

MARYLAND.

Baltimore Personal.—Dr. N. G. Kenle, Jr., left London last week for Paris to study at the Pasteur Institute. On his return he will be assistant of the Pasteur department at the City Hospital, which is under the charge of his father.

Deaths in Baltimore.—For the week ended November 28, 177 deaths and 79 births were reported. The annual death rate was 16.50 per 1,000. Among the causes of death were consumption, 23; Bright's disease, 21; pneumonia, 11; cancer, 6; and typhoid fever, 5.

Section Officers Elected.—At the inaugural meeting of the section on ophthalmology, otology and laryngology of the Medical and Chirurgical Faculty of Maryland for 1903-4, held November 27, at Baltimore, Dr. Harry Friedenwald was elected chairman, and Dr. James J. Carroll, secretary-treasurer.

House Staff Appointed.—The following have been appointed house staff of the Frederick County Emergency Hospital recently established at Frederick by the county medical society: Drs. Franklin B. Smith, William C. Johnson, Henry P. Fahrney, Ira J. McCurdy, Samuel T. Haffner, Wilson A. Long and Harvey Getzendanner.

Charges Dismissed.—The county commissioners of Baltimore county dismissed the charges against Dr. John C. Schofield, health officer of the Twelfth District, preferred against him by Dr. John S. Fulton, secretary of the State Board of Health. It was alleged that Dr. Schofield neglected his duty in allowing suspects to escape from the camp of detention at Hombergville during the late smallpox epidemic, and had not reported deaths at Bayview Asylum in the proper form to the health office in Baltimore.

NEW YORK.

Diphtheria in Auburn Abating.—The epidemic of diphtheria in the western portion of Auburn is abating, and schools were reopened this week.

Convicted of Attempted Abortion.—Dr. Henry C. Chapin, Findley Lake, was convicted, November 22, of attempted abortion. This is a compromise verdict, as he was charged with manslaughter in the first degree.

Smallpox at Corinth.—Dr. Frederick C. Curtis, Albany, medical officer of the State Department of Health, reports that he found several mild cases of smallpox at Corinth, Saratoga County, and that all are properly quarantined.

New York City.

Nurses of St. Luke's Hospital.—The Alumnae Association of this hospital has realized about \$4,000 from a fair to endow a room for the use of the nurses when sick.

Fewer Deaths from Tuberculosis.—According to a circular just issued by the health department the death rate from pulmonary tuberculosis in New York City has fallen from 42 per 1,000 in 1881 to 2.29, or a reduction of more than 40 per cent.

Personal.—Dr. John W. S. Gouley is giving a course of lectures on Wednesday evenings at Bellevue Hospital on "The Principles of Conduct Adapted to Medical Students and Physicians."—Dr. and Mrs. William T. Bull have sailed for Europe.

Family Exterminated by Pneumonia.—It is reported that a whole family has been wiped out by the ravages of pneumonia. The disease first attacked a young girl, who died in St. Peter's Hospital. Her father, mother, sister and uncle called at the hospital to see her, and all of them, as well as a brother, died of the same disease within a few days.

Abortinist Arrested.—Through the combined efforts of the New York County Medical Society, the health commissioner and the Society for the Prevention of Cruelty to Children, Dr. Francis Gary Blinn was arrested in his own sanitarium, charged

with attempting to perform an illegal operation. A medical student named Edwin Watkins, impersonating "Dr. J. Sterling Loomis" of Bayonne, took a prominent part in the procedures leading to this arrest. Dr. Blinn agreed to pay "Dr. Loomis" a commission of \$100, the fee asked for the operation being \$500. Dr. Blinn was arrested in January, 1893, and in March, 1902, on similar charges, but was discharged for lack of evidence. He has now fled from the city, forfeiting his bail of \$1,000.

OHIO.

Sisters' Hospital Soon to Open.—The building at Clifton which the Sisters of Charity have remodeled and equipped as a hospital, is now almost ready to receive patients.

Medical Libraries Consolidated.—The books formerly in the medical department of the Cincinnati Public Library have been removed to the City Hospital, and, with the library already accumulated there, will make a large and useful library.

Personal.—Dr. Charles H. Willgohs, Akron, celebrated his centenary on November 20.—Dr. Dudley P. Allen, Cleveland, gave a dinner, November 21, in honor of Dr. William Mayo, Rochester, Minn.—Dr. Adam H. McCullough has been inducted into the office of health officer of Mansfield, vice Dr. J. Harvey Craig.—Dr. Walter W. Brand was re-elected health officer of Toledo, November 24.

Epidemics.—MEASLES at Columbus Barracks, 22 cases; SCARLET FEVER at the Institution for the Blind, Columbus, 25 or more cases; at Bowling Green and at McArthur the public schools have been closed; SMALLPOX, 13 cases at Steubenville, 40 cases at Cambridge, 3 cases at Washingtonville, schools and churches closed; Marysville has quarantined against Union County and has prohibited public gatherings; Youngstown has 21 cases.

PENNSYLVANIA.

Trained Nurse Convicted.—Daisy Goeing, a trained nurse, was recently sentenced to five years' imprisonment on pleas of guilty to robbing the safe of the West Philadelphia Hospital for Women, and obtaining goods by false pretenses.

The Typhoid Situation at Butler.—On November 28 the State Board of Health held an adjourned session in Butler, Pa., to investigate the cause of an epidemic of typhoid fever at that place, which has affected more than 1,200 people. The cause is charged to polluted water furnished by the Butler Water Company. It is claimed that because of the loss of a dam the company for a time pumped water directly from a creek when there were many typhoid cases on the tributaries of the stream. Because of the epidemic many families are in destitute circumstances, and a public meeting has been held to raise a fund to support emergency hospitals and to aid other relief work. Later information has been received to the effect that diphtheria has made its appearance among the fever-stricken children in St. Paul's Orphan Home. A physician and four nurses have been detailed for the institution and strict quarantine has been established. So far 3 cases have been discovered. Six physicians and more than 50 nurses have come to Butler to aid in care of the sick. Twenty-five new cases of typhoid fever were reported December 1, with 4 deaths.

State Board Meets.—The State Board of Health met in Pittsburg, November 27. Dr. Benjamin Lee, secretary, in his annual report gave particular attention to the status of smallpox in Pennsylvania. During the year ending November 1 there were 6,504 cases of smallpox and 503 deaths from the disease. The largest number occurred in Pittsburg, where there were 1,234 cases and 238 deaths. In Philadelphia, up to October 1, there have been 948 cases and 138 deaths. A careful calculation leads to the conclusion that outside of the large cities about 1,500,000 school-days were lost because of the disease, while the inclusion of the large cities would swell the figures enormously. In Philadelphia, for example, seven elementary schools, with an enrollment of more than 5,000 pupils, were closed in a single day. The report deals also with measures taken to prevent the pollution of streams, tuberculosis, tetanus and proposed legislation to stop the sale of toy pistols and dangerous explosives. Chairmen of the standing committees are as follows: Charles H. Harvey, Philadelphia, executive; Benjamin Lee, Philadelphia, registration and vital statistics; George G. Graff, Bucknell College, preventable diseases; A. M. Embrick, Boiling Springs, adulteration, etc.; John Fulton, Johnstown, water supply and sanitation; Samuel T. Davis, Lancaster, public institutions and school hygiene; H. J. McClelland, Pittsburg, sanitary legislation.

Philadelphia.

The Muetter lecture on surgical pathology, College of Physicians for 1903, was delivered in the lecture hall of the college,

December 1, by Dr. Charles N. B. Camac of Cornell University, New York City, the subject being "Some Observations on Aneurism and Arteriosclerosis."

Smallpox and Deaths.—For the week ended November 28, new smallpox cases were reported from 26 of the 42 wards of the city. There was a total of 70 new cases with 11 deaths. Deaths from all causes numbered 495, compared with 409 the week before and 454 for the corresponding period of last year.

Dispensary Burns.—On the evening of November 29 a building used by the Children's Homeopathic Hospital for dispensary purposes and for sleeping apartments for servants was destroyed by fire, involving a loss of some \$4,000. A threatened panic of the inmates was prevented by the prompt and cool action of the nurses.

City Not Responsible.—A man recently brought suit against the city to recover damages because of the illness of members of his family asserting that they had contracted typhoid fever as a result of foul gases arising from garbage. Attempt was made to hold the city responsible for the deposit of this noxious matter. The plaintiff lost the suit, the defense producing expert testimony to prove that typhoid germs can not be introduced into the system by breathing impure air.

RHODE ISLAND.

Typhoid at Brown.—Brown University, Providence, is having a small epidemic of typhoid fever. Nine cases have so far developed, but the source of infection has not been discovered.

Personal.—Dr. Craig Cameron, Olneyville, was seriously burned about the face by carbolic acid.—Dr. Lucius F. C. Garvin, Lonsdale, has been re-elected governor of the state by 5,000 plurality.

Verdict Against Physician.—A Providence jury has given a verdict for \$2,375 against Dr. J. Leroy Fisher of that city in favor of a boy whom he treated for a fracture of the leg, which the complainant claimed was not properly treated, as ulceration and shortening followed.

Vanderbilt Donation to Hospital.—Mrs. Cornelius Vanderbilt, Sr., has transferred to the trustees of the Newport Hospital the memorial edifice to her husband which she has erected and equipped on the grounds of the institution, at a cost of \$250,000. It is to be known as the Cornelius Vanderbilt Pavilion.

TEXAS.

Quarantine Raised.—The quarantine maintained by Denison and McKinney against Sherman, on account of smallpox in the latter city, has been raised on the advice of the state health officer.

Increases Scope and Stock.—Dallas Medical College has filed an amendment to its charter, adding to its purpose clause the right to maintain a medical dispensary, and also increasing its capital stock from \$3,000 to \$6,000.

State Health Officer Supreme.—The attorney general has rendered an opinion that all county and city quarantine authorities are subordinate to the state health officer and that health certificates issued by him must be respected by local authorities.

Laredo Fever-free.—Laredo has had no case of yellow fever since November 25, and should this favorable condition continue, the health authorities will soon give the city a clean bill of health and raise the quarantine. The total cases have numbered 1,022, with 99 deaths, a mortality of 9.7 per cent.

To Decrease Degeneracy.—Dr. Marvin L. Graves, San Antonio, superintendent of the Southwestern Insane Asylum, in his annual report says there are 3,200 insane persons in asylums and 2,000 at large in Texas. He believes the time is near when some humane means, surgical or otherwise, will be demanded to prevent the continuation of a race of degenerates and dependents.

FOREIGN.

Santiago, Chili, Sewer System.—The government of Chili has provided for the appropriation of \$5,000,000 to establish a drainage and sewage system in the city of Santiago.

Sleeping Sickness at Paris.—The three negroes from the Congo exhibited at the Paris Académie de Médecine, as mentioned on page 1335, are attracting much interest. They spend most of their time in bed, but do not suffer at all, and are confident that they will soon be cured. Each has a remarkable appetite and digestion is good. The Association des Dames Françaises has placed its small hospital at the service of the Institute of Colonial Medicine, and the negroes are cheerful in their new surroundings.

Italian Regulations for Notification of Disease.—The Italian government has recently ordered that when the authorities are notified in regard to the presence of a case of contagious disease in a house the notice must state whether the patient is attending school and mention the school and also whether there are other school children in the family or house or persons employed in a school. The local authorities will then notify the principal of the school mentioned so that he will debar persons from the infected home in case they come to school. Another regulation is to the effect that children with chronic affections such as *trachoma*, *impetigo*, *trinea* and tuberculous affections of the skin or bones, may attend school, but must sit apart from the other children, without any possible contact between them and their mates. Children with suppurating tuberculous lesions of the skin, bones or glands, are also allowed to attend school if their lesions are kept covered and if they are seated at isolated desks.

Marmorek's Antituberculosis Serum.—Dr. Marmorek has long been connected with the Pasteur Institute at Paris as chief of the chemical laboratory. During the past year he has been experimenting with an antituberculosis serum whose effects on lower animals have been so good that he is encouraged to propose it for the treatment of humans. The other scientists connected with the institute refused to sanction its publication at this early date and wished to wait for further experience. Marmorek has consequently withdrawn from the Pasteur Institute, and read a communication before the Académie de Médecine, November 17, describing his technic and results to date. The *Bulletin* for that meeting has not yet been received. His communication had been announced for November 10, but Roux of the Pasteur Institute secured its withdrawal. On deliberation, however, the Académie gave audience to Marmorek at the following meeting. Roux stated that the results of control tests at the Pasteur Institute were entirely opposite to those which Marmorek asserts to have obtained. A cable dispatch from Paris in the daily press December 2, announces that Prof. G. Dieulafoy reported to the Académie that he had tested the Marmorek serum on seven patients, Marmorek operating. Instead of becoming better, he says, they became worse and five died. Le Dentu made a similar report.

Tuberculosis Conference at Berlin.—The physicians in charge of the tuberculosis sanatoriums in Germany meet annually at Berlin to discuss matters connected with their specialty. This year all medical men officially engaged in the campaign against tuberculosis were invited to the meeting, which was, therefore, an exceptionally interesting one. B. Fraenkel, in his opening address, considered it necessary to defend the sanatoriums against certain aspersions. He stated that the influence of climate is not important as more than 30 per cent. of the patients treated in sanatoriums at the ordinary altitude have had their working capacity restored for more than four years. He referred to immunization against tuberculosis as a dream for the future without practical value for the present, and offering no prospects as yet of rendering the sanatoriums superfluous. Their value as a means of educating the people in the prophylaxis of tuberculosis can not be overestimated. Treatment with tuberculin was discussed at great length, the general opinion seeming to be growing more and more favorable to it, especially for tuberculosis in children. Sanatorium treatment for tuberculous children was qualified as indispensable and blessed in its results. Children need especial care when they are leaving school to enter apprenticeships, also during convalescence from infectious diseases. Heubner made an impassioned appeal for more convalescent homes and sanatoriums for children, and it was decided after long discussion that the expense of such institutions ought to be borne by the community or group of communities. Brandenburg already has organized an association for the purpose. Germany also has one or two sanatoriums for tuberculous children, recently opened, and the gain in weight of all the children has been remarkable. One of the sickness insurance societies has opened a home at Berlin for incurable consumptives, with accommodations for 20. It is designed for those whose home environment favors contagion of others. The inmates are allowed to see their friends every day at certain hours, and are given leave of absence for half a day twice a week. Only 8 of the 35 taken in have died; 2 others have left to resume work.

LONDON LETTER.

The Etiology of Sleeping Sickness.

We have recently referred to the "progress report" of the commission appointed by the Royal Society to investigate sleeping sickness (*THE JOURNAL*, October 10, p. 918). Their

provisional conclusion—that sleeping sickness is caused by the entrance into the blood and thence into the cerebrospinal fluid of a species of trypanosoma which is transmitted from the sick to the healthy by a species of tsetse fly—is now fully borne out by the complete report and constitutes a discovery which ranks with those of the mosquito origin of malaria and yellow fever. Some conception of the ravages wrought by this disease among the native population in Uganda may be formed from the condition of the Buvuma Island, where a population of 22,000 has been reduced to 8,000 since the outbreak of the disease, while the province of Busoga has been almost depopulated in the southern parts. Colonel Bruce was dispatched by the government to superintend a further investigation into this disease, on which some work had already been done by the previous commission sent out by the Royal Society. He was accompanied by Dr. Nabarro as bacteriologist, and while in Uganda was joined by Captain Grieg, I. M. S., who had been sent out by the Indian Government to study the disease. Colonel Bruce and his party reached Entebbe on March 16, and found that Dr. Castellani, a member of the previous commission who had remained at work on the investigation, had observed in 5 cases of sleeping sickness trypanosomes in the cerebrospinal fluid, and in one case in the blood. At that time Dr. Castellani did not consider that this parasite had any causal relationship to the disease. As soon as it was reported to Colonel Bruce, whose investigations into the tsetse fly disease in South Africa are well known, the whole party, with the assistance of Dr. Moffat, the principal medical officer, and his assistant medical officer, addressed themselves with ardor to this line of investigation with the result that by the first week in April, out of 34 cases of sickness examined, 70 per cent. were found to have this parasite in the cerebrospinal fluid, whereas control cases of patients under treatment for other diseases in the native hospital, when examined in the same way, showed no trypanosomes in their cerebrospinal fluid. The further progress of the investigation increased this proportion to 100 per cent. of cases examined, in all of which the parasite was found not only in the cerebrospinal fluid, but also in the circulating blood. A series of experiments was carried out in which it was discovered that monkeys inoculated with cerebrospinal fluid from sleeping sickness patients, or with blood from natives not as yet showing symptoms of sleeping sickness, but containing a similar parasite, sickened and died, with all the symptoms of sleeping sickness. From the analogy of the closely related disease in cattle, the nagana or tsetse fly disease of South Africa, it was suspected that in sleeping sickness a like method of infection took place. Along the lake shore numbers of tsetse fly (*Glossina palpalis*) were found, and it was demonstrated by experiment that not only were these flies, fed on sleeping sickness cases, capable of conveying the disease to healthy monkeys, but that the freshly-caught flies from an infected area, without any artificial feeding, were also capable of conveying the disease. It was further discovered that this fly, like its congener the tsetse fly of South Africa, is confined to well-defined areas, which correspond absolutely with the distribution of sleeping sickness, whereas, in regions where no *Glossina palpalis* is found, although other biting flies abound, there is no sleeping sickness. Moreover, a large percentage of the inhabitants of the sleeping sickness areas have in their blood the trypanosoma, but in not a single case taken from inhabitants of non-sleeping sickness areas was this parasite found.

Correspondence.

American and International Congresses on Tuberculosis and Tuberculosis Exhibits for the Years 1904 and 1905.

New York, Nov. 27, 1903.

To the Editor:—During the past few months I have received many inquiries concerning the various tuberculosis congresses (American and international) which have been projected for the years 1904-5. The multiplicity of these various congresses and the similarity of their names lead naturally to great confusion.

It is announced that a congress on tuberculosis is to be held in St. Louis in October, 1904, under the name of "International Congress on Tuberculosis." On careful inquiry I learned the following facts about this congress: Mr. Francis, the president of the St. Louis Exhibition, has been approached by the officers of the "American Congress on Tuberculosis,"

which was founded some years ago by Clark Bell, a lawyer of the city of New York, to sanction the holding of an international congress on tuberculosis in connection with the Louisiana Purchase Exposition. From a letter received from Dr. E. J. Barriek of Toronto, Canada, the president of this congress, I learn that Mr. Francis has appointed the above-mentioned Mr. Clark Bell chairman of the committee on organization. Mr. Clark Bell is also the treasurer and chairman of the executive committee of the "American Congress on Tuberculosis," season 1903-1904; a Mr. Samuel Bell Thomas of 290 Broadway, New York, is the secretary of the latter. The officers of the international congress are not yet elected. I was desirous to learn the names of other medical men interested in this congress, and Dr. Barriek very kindly wrote me November 16, that he had asked Mr. Bell to furnish me the desired additional information, but nothing has thus far been received.

The other international tuberculosis congress announced is the one to meet in Washington, D. C., April, 1905. It is to be held under the auspices of "The American Congress on Tuberculosis for the Prevention of Consumption," of which Dr. Daniel Lewis, New York, is president, and Dr. George Brown, Atlanta, Ga., is secretary.

I want to call attention to the difference in name of the two American congresses, one is "American Congress on Tuberculosis," the other "The American Congress on Tuberculosis for the Prevention of Consumption."

The congress which was to meet under the name of "Congrès International de la Tuberculose" at Paris from Sept. 26 to Oct. 1, 1904, has been recently postponed to the year 1905. The president of this congress is Professor Brouardel, honorary dean of the Faculty of Medicine of Paris. The general secretary is Dr. M. Letulle, professor agrégé of the Faculty of Medicine, residing at 7 rue Magdebourg, Paris.

There will be held during the coming year independently of the above-mentioned congresses two tuberculosis exhibitions, one in Baltimore, and the other in St. Louis. The Baltimore Tuberculosis Exhibition will be held in January, 1904, under the combined auspices of the tuberculosis commission, the Maryland Board of Health, and the Maryland Public Health Association.

The other tuberculosis exhibition will be held in St. Louis, in connection with the Exhibition of Social Economy and under the subsection of hygiene, of which Dr. J. N. Hurty of Indianapolis is superintendent.

All indications point toward success of both exhibits, and it is to be hoped that they will fulfill their high purpose and at the same time be a credit to American physicians and hygienists.

Considering the various congresses I do not hesitate to express a feeling of deep anxiety. The first one mentioned, which for reason of brevity I will call "The Bell Congress," because it owes its inception to Mr. Clark Bell, has, to my knowledge, not the support of our best men. The second congress in point of time, which again, for the sake of brevity and clearness, I may call "The Lewis-Brown Congress" (names of the president and secretary), while it has many distinguished men of various state and provincial boards of health among the members; has, like the Bell congress, thus far not among them the men we are wont to look up to as leaders in movements of this kind.

What are our confrères across the water to think if they hear of two American congresses on tuberculosis and each having an international one under its auspices? The European authorities found it best, instead of having a triennial congress, to have one more year to intervene. This will make the congress in Washington and the one in Paris convene in the same year (1905).

If President Francis of the St. Louis Exposition desires that a tuberculosis congress shall be held in St. Louis, let him call to his aid some of the men who are recognized as leaders in our profession. They will counsel with him on the advisability of such a congress, and if it is decided that one should be held, Mr. Francis can be assured that the best element of Europe and America will come to St. Louis to contribute to its success.

The officers and members of the Lewis-Brown congress must realize that they can not expect to have their international meeting in Washington to be successful, when, six months later, there will be an international congress in Paris. I hope that there will be enough patriotism and national pride for all interested to realize that two American congresses on tuberculosis is an anomaly, and that, if the St. Louis congress is to be a success, it must be in the hands of medical men well and favorably known in this country and abroad.

As a solution of the problem I beg leave to suggest the following: During the Tuberculosis Exposition in Baltimore next January all interested should meet on a certain date on this neutral ground for the purpose of coming to an agreement about a single representative national or international tuberculosis congress to be held in America. There, too, should be formed a national committee on tuberculosis which is to be in touch with the international tuberculosis congress which will convene in Paris in 1905.

S. A. KNOPE, M.D.

16 West Ninety-fifth Street.

Mercuric Cataphoresis.

PHILADELPHIA, Nov. 25, 1903.

To the Editor:—I wish to correct a mistake which I allowed to remain when correcting the report of my remarks on the papers of Drs. Dunning and Boyce. This discussion appeared in THE JOURNAL, November 14, page 1194. I was reported as speaking of a method of diffusion of mercury through the "abdominal wall" for chronic inflammation of the uterine appendages. It should have been "vaginal wall." The method referred to is described in a paper in THE JOURNAL, Aug. 30, 1902, and I will be glad to send reprints to those who wish them.

G. BETTON MASSEY.

Marriages.

EMMETT M. HARRISON, M.D., to Miss Salome Bradley, both of Knoxville, Tenn., September 7.

ARTHUR GILBERT BARRETT, M.D., to Miss Alice Hollander, both of Baltimore, November 18.

OMAR H. REES, M.D., Ogden, Ill., to Miss Lydia Matilda Georg of Indianapolis, November 11.

FRANK H. THOMAS, M.D., Valdosta, Ga., to Miss Ann E. McKay of Riverton, Va., November 18.

SAMUEL H. NEAL, M.D., Elkhorn, W. Va., to Miss Bertha M. Jones of Philadelphia, November 18.

JAMES MORRISON BOBINE, M.D., to Mrs. Laura M. Williams, both of Louisville, Ky., November 25.

JULIA SEATON KAPP, M.D., Denver, Colo., to Frank W. Sears of Lynn, Mass., at Boston, November 15.

FRANK CLINE FERGUSON, M.D., Spartansburg, S. C., to Miss Edith Seward, at Baltimore, November 18.

EDWIN ELLIOTT ARMSTRONG, M.D., Sylvania, Ohio, to Miss Myrtle Demuth of Toledo, Ohio, October 21.

JAMES R. RICHARDS, M.D., Thermopolis, Wyo., to Miss Edith M. Blatchford of Terry, S. D., November 14.

ROBERT A. MARTIN, M.D., Pell City, Ala., to Miss Mary Lee Campbell of Birmingham, Ala., November 18.

GEORGE C. MOREY, M.D., Remsen, N. Y., to Miss Edna Richards of Steuben, N. Y., at Remsen, November 10.

GEORGE LAWRENCE STEVENSON, M.D., Sacramento, Cal., to Miss Frances Burt of San Francisco, November 14.

JESSE NEWMAN REEVE, M.D., Washington, D. C., to Miss Ashley Macon Miller of Richmond, Va., November 17.

THEOPHILUS LACY MASTIN, M.D., Huntsville, Ala., to Miss Mary Cyrene Burch, at her home near Versailles, Ky., November 17.

Deaths.

Horace C. White, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1859, one of the most prominent physicians of Somerville, Mass.; assistant surgeon of the Eighth Maine Volunteer Infantry during the Civil War; a member of the American Medical Association, Massachusetts Medical Society.

Maine Medical Association, ninth International Medical Congress, and sometime president of the Boston Gynecological Society, and the Somerville Medical Society, for two terms a member of the state legislature and a trustee of the Somerville Hospital since its organization, died at his home, November 26, after a long illness, from heart disease, aged 67.

Henry Eugene Winslow, M.D. College of Physicians and Surgeons, New York, 1894, surgeon U. S. Constabulary in the Philippine Islands, formerly of West Oakland, Cal., at one time medical inspector of the Manila Board of Health, and a medical officer of great promise, died from amebic dysentery in the Civil Hospital, Manila, October 8. The council of the Manila Medical Society, at a meeting held October 10, adopted resolutions eulogistic of the ability, modesty and simplicity of the deceased officer and deploring his untimely death.

Hawkins Brown, M.D. University of Louisville, 1854, a venerable and honored practitioner of Kentucky; once president of the Kentucky State Medical Society, a member of the American Medical Association, died at his home in Hustonville, December 1, aged 73. He was surgeon of the First Kentucky Cavalry, and served on General Stoneman's staff during the Civil War.

Charles Schaeffer, M.D. University of Pennsylvania, Philadelphia, 1859, the well known scientist, and member of many learned societies, who devoted himself especially to botany, died at his home in Philadelphia, November 21, from heart disease, aged 65. He was in active practice until 1898.

Frank L. Swallow, M.D. University of Pennsylvania, Philadelphia, 1900, of Pittsburg, Pa., died suddenly, November 17, at Manor, Pa., whence he was to be taken to the West Penn Hospital to be treated for neurasthenia, aged 27.

Allex Hazen, M.D. College of Physicians and Surgeons, New York, 1895, of New York City, a member of the Society of Alumni of the City Hospital, died at Jericho Center, Vt., November 17, after an operation for appendicitis.

John W. Van Osdel, M.D. Miami Medical College, Cincinnati, 1879, of Hillsborough, Ind., died at the home of his son in Rushville, Ind., November 2, from paralysis, after an illness of 11 days, aged 58.

Charles A. H. De Szigethy, M.D. University of Giessen, Germany, 1867, a member of the American Medical Association, died at his home in Brooklyn, November 17, from heart disease, aged 65.

Theodore A. Trulson, M.D. College of Physicians and Surgeons of Chicago, 1885, died from paralysis of the heart following diphtheria, November 18, after an illness of thirteen days, aged 42.

Carrie L. Heald, M.D. Northwestern University Woman's Medical School, Chicago, 1897, died at her home in Osceola, Neb., November 18, from typhoid fever, after an illness of four weeks.

William Hutton, M.D. University of Michigan, Ann Arbor, 1874, was drowned November 22, by breaking through the ice while crossing Apple River at his home in Elizabeth, Ill., aged 58.

Louis H. Dravo, M.D. Jefferson Medical College, Philadelphia, 1881, who had suffered from asthma for several years, was found dead at his home in Pittsburg, November 18, aged 50.

Samuel Talmage, M.D. New York University, 1870, a member of the Kings County (N. Y.) Medical Society, died at his home in Brooklyn, November 20, from paralysis, aged 72.

Thomas A. Barr, M.D. Eclectic Medical Institute, Cincinnati, 1864, died at his home in Lebanon, Mo., November 15, after a lingering illness, from Bright's disease, aged 62.

Alphonse J. Mervy, M.D. Cooper Medical College, San Francisco, 1876, of San Francisco, died at San Diego, Cal., November 17, after an illness of three months, aged 56.

Benjamin F. Sippy, M.D. St. Louis College of Physicians and Surgeons, 1884, died at his home in Belle Plaine, Kan., November 19, from cancer of the stomach, aged 55.

John Tascher, M.D. Eclectic Medical Institute, Cincinnati, 1878, formerly of Chicago, died at Albuquerque, N. M., November 16, from nephritis, after a long illness.

Henry T. Templeton, M.D. Medical College of Georgia, Augusta, 1867, died suddenly at his home in Laurens, S. C., November 10, from heart disease, aged 62.

Raymond P. Eddy, M.D. Eclectic Medical Institute, Cincinnati, 1860, died at his home in Providence, R. I., November 11, after an illness of about one year, aged 80.

Douglas W. Tice, M.D. St. Louis Medical College, 1860, a practitioner in Troy, Mo., for more than 10 years, died at his home in St. Louis, November 11, aged 70.

B. Brown Henry, M.D. University College of Medicine, Richmond, 1900, of West Newton, Pa., was struck by a train at that place, November 17, and instantly killed.

James G. Dickson, M.D. Jefferson Medical College, Philadelphia, 1851, died suddenly from heart disease at his home in Canonsburg, Pa., November 14, aged 78.

Jefferson K. Heltman, M.D. Medical College of Indiana, Indianapolis, 1875, died suddenly from heart disease, November 8, at his home in Oaklandon, Ohio.

Herbert A. Starkey, M.D. Medical College of Philadelphia, 1889, died suddenly at his home in Kingston, N. Y., November 21, aged 35.

Willard L. Collins, M.D. Western Pennsylvania Medical College, Pittsburg, 1892, died suddenly at his home in Girdville, Pa., November 2, aged 38.

T. Clayton Williams, M.D. University of Maryland, Baltimore, 1868, died at Winchester, Va., October 29, from acute Bright's disease, aged 59.

John L. Watkins, M.D., assistant surgeon in the Confederate Army during the Civil War, died at his home in Milton N. C., October 24.

Matthew A. Schweeters, M.D. Western Reserve University, Cleveland, 1890, died suddenly from heart diseases at his home in Leesville, Ohio.

John A. Hickman, M.D., surgeon in the Confederate service, died at his home in Cynthiana, Ky., November 18, after a short illness, aged 76.

Daniel J. Turner, M.D. University of Maryland, Baltimore 1894, died at his home in Front Royal, Va., November 10, aged 38.

Thomas J. West, M.D. Charity Hospital Medical College, Cleveland, 1868, died at his home in Lima, Ohio, November 18, aged 68.

Zera W. Monroe, M.D. Rush Medical College, Chicago, 1890, died at his home in Monroe, Wis., November 20, from tuberculous.

Edward E. Smart, M.D. Tulane University, New Orleans, 1856, died recently at his home in Leesville, La.

William Joseph von Mitten Eimerhand, M.D., died November 10 at his home in Newport, Ky., aged 81.

Orion M. Cox, M.D., died from pneumonia at his home in Cox's Creek, Ky., November 21, aged 74.

L. F. Watson, M.D., died at an advanced age at his home in Springfield, Mo., November 18.

Book Notices.

PRACTICAL GYNECOLOGY. A Comprehensive Text Book for Students and Physicians. By C. E. Montgomery, M.D., LL.D. Professor of Gynecology Jefferson Medical College. Second Revised Edition. With 539 Illustrations, the Greater Number of Which Have Been Drawn and Engraved Especially for This Work, for the Most Part from Original Sources. Cloth. Pp. 900. Price, \$5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

While it is only three years since the first edition of this book was issued the author has found it necessary to revise many parts so as to bring it well up to date, and to include all the later important operative procedures. Several changes have been made in the arrangement. In our review of the book on its first appearance we criticised the classifying of the various lacerations of the pelvic floor, vaginal fistula, etc., under malformations, in this edition these and similar conditions are grouped under a new general division of traumatism. Other minor changes are also to be observed, all bettering the book. Many new illustrations have been added, and not a few of the old ones have been redrawn. The book is unusually well gotten up and the binding has been especially improved. As we said in noticing the work on its first appearance, the author is neither too radical nor too conservative in the consideration of the conditions that may need radical operations. In the introduction he tells us that the true gynecologist must be "so conservative that he will sacrifice no organ whose physiologic integrity is capable of being restored, so bold and courageous that his patient shall not forfeit her opportunity for life or restored health through his failure to assume the

responsibility of any operative procedure necessary to secure the object." This is the basal idea that permeates the book; the ultraradical operator will find no endorsement, and the "tinkering" gynecologist—he who treats all diseases of women by means of a pledget of cotton and a speculum—no encouragement in its pages. The book is one that we can recommend to the student, to the general practitioner—who must sometimes be a gynecologist to a certain extent whether he will or not—and to the specialist, as an ideal and in every way complete work—a practical work for practical workers.

A DICTIONARY OF MEDICAL SCIENCE. Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., L.L.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-third Edition, Thoroughly Revised, with the Pronunciation, Accentuation and Derivation of the Terms. By Thomas L. Stedman, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 1212. Price, \$8.00. Philadelphia and New York: Lea Brothers & Co. 1903.

For seventy years Dunglison's Dictionary, like Gray's Anatomy, has been a standard. It has held first place—and the only place for many years—as the medical dictionary of our country. Others have appeared and held high rank for awhile, and then have vanished. But Dunglison's still hung on and became an institution in medicine. And now we have the twenty-third edition "thoroughly revised," as the title-page says, which examination shows to be a fact. It is the old standby with all its old associations clinging to it, but nevertheless it is a thorough exemplar of twentieth century medicine. A critical examination for the discovery of the omission of recently created words has resulted in a failure to find the omission; the new words are there. Over 1,500 new definitions, according to the preface, have been introduced in this edition. A few of the old definitions have been rewritten in a more concise form, but most of the old ones have been left as they were originally. The illustrations are more of a feature than in previous editions. Many are in colors, and those illustrating the arteries (19) and the veins (10) are especially to be commended. Those of us who in our younger days dug out of "Dunglison" not a little of medical lore will welcome the old book made new again and will thank Stedman and Lea Brothers for making it possible still to refer with confidence and satisfaction to the friend of our youth.

PSYCHOTHERAPY in the Practice of Medicine and Surgery. By Sheldon Leavitt, M.D. Cloth. Pp. 247. Price, \$2.00. Chicago: Gardner-Taylor Press. 1903.

The principles of psychic healing as laid down by Leavitt seem to be very near to the teaching of Mrs. Eddy, divested, however, of their pseudo-religious and other fraudulent accessories. He believes in subjective and objective minds; the former controlling the vital action being in itself controllable to some extent by the objective mind. In his treatise he says that "all disease has its origin in the mind, the subjective taking its cue from its environment" and that "the prevention of disease consists in keeping the subjective mind under the power of wholesome suggestion." "The cure of disease consists in the use of suggestion running counter to disease and the establishment of subconscious thoughts of health inculcated by unconscious volition." "All cures are essentially self cures." This is pretty near pure Eddyism. The author believes, nevertheless, in the use of drugs and thinks that they are practically only aids to suggestion. The book is a readable one, and has, it seems to us, some literary pretensions, but as a scientific work we would not give it a very high place.

HUNTINGTON'S ABDOMINAL ANATOMY. The Anatomy of the Human Peritoneum and Abdominal Cavity Considered from the Standpoint of Development and Comparative Anatomy. By George S. Huntington, M.D., Professor of Anatomy in the College of Physicians and Surgeons, Columbia University, New York City. Pp. 590, including 300 Full-page Plates in Colors and Monochrome. De Luxe Edition. Price, \$10.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

In this work the author says: "An attempt has been made to emphasize the value of embryology and comparative anatomy in elucidating the difficult and often complicated morphologic problems encountered in the study of human adult anatomy." The first chapter, or introduction, contains a con-

cise statement of the main facts of vertebrate embryology in so far as they relate to the abdominal cavity and its contents. The work is then subdivided into four parts: "Anatomy of the Peritoneum and Abdominal Cavity, Comparative Anatomy of Foregut and Stomach"; "Anatomy of the Peritoneum in the Supracolic Compartment of the Abdomen"; "Large and Small Intestine, Ileocolic Junction and Cecum"; "Morphology of the Human Cecum and Vermiform Appendix." Of course, no attempt is made to cover the entire subject of comparative anatomy, but such examples are considered as may lead to a clearer and better understanding of the human adult form. The author shows not only a thorough knowledge of the entire subject from a scientific point of view, but has presented the matter in such an attractive and instructive form as to enable the surgeon and physician to make many deductions of the greatest practical value. It is seldom that one has the pleasure of reviewing a work which is so thoroughly scientific and so replete with the practical and important. It is an excellent work and can be heartily recommended.

VEASEY'S OPHTHALMOLOGY. A Manual of Diseases of the Eye. For Students and General Practitioners. By Clarence A. Veasey, A.M., M.D., Demonstrator of Ophthalmology in Jefferson Medical College, Philadelphia. 12mo. Pp. 410. With 194 Engravings and 10 Full-page Colored Plates. Cloth. Price, \$2.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

Dr. Veasey has given us a most valuable text-book, which will be useful to both student and practitioner. Veasey has had a long experience as a teacher, and consequently is capable of producing, in a condensed form, an excellent volume on the subject of ophthalmology. The volume is made attractive as well as more valuable by the color plates and by the two hundred engravings which are well executed. The publishers have presented the book in an attractive form and free from typographic errors. The chapter on the affection of the ocular muscles is one of the best, clearest and most concise that has yet been written. The author has evidently made a careful study of sympathetic ophthalmitis, as he has under that head given a condensed but at the same time a careful and thorough description of this most interesting disease.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60-Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30 Patient Perpetual Contain 32 Pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber, and Calendar for Two years. Price, \$1.25. Thumb-letter Index, 25 cents Extra. Philadelphia and New York: Lea Brothers & Co. 1903.

This excellent pocket companion comes to us in practically the same form as in former years. The matter has been revised and brought thoroughly up to date. It is one of the most useful pocket visiting lists that is issued and contains important tables, poisons and antidotes, etc., in a compact form.

PHYSICIANS' POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 200. Price, \$1.00. Philadelphia: Published by the Medical Council.

This is a neat, compact, easily kept account book that can be carried in the pocket without inconvenience and contains a large amount of information for the general practitioner. The form of keeping the accounts is in compliance with the legal requirements of practically all the states, making it especially valuable on this account.

SUCCESS IN DENTAL PRACTICE. A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice. By C. N. Johnson, M.A., L.D.S., D.D.S., Professor of Operative Dentistry in the Chicago College of Dental Surgery. Cloth. Pp. 159. Price, \$1.25. Philadelphia and London: J. B. Lippincott Co. 1903.

This little work is full of useful hints to the dental practitioner. Written by a man of years of ripe experience, it can not but be of great benefit to the dentist, especially to those about to begin practice. Every dental practitioner should have it conveniently at hand to peruse at his leisure moments.

ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS AND THE USES OF THE ROENTGEN RAY. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics. Second Edition. Revised and Enlarged. Contains More Than 100 Illustrations. Including Ten Full-page Half-tones, Showing the Various Methods of Posturing and Treating Conditions. Cloth. Pp. 302. Price, \$3.00. New York: A. L. Chatterton & Co.

This work first appeared about two years ago, and has now been corrected and brought up to date.

Miscellany.

We need to educate the medical profession, at large as well as the public on the extreme value of postmortem examinations. These examinations . . . would help us at every step of our work and do more to advance our profession than any other one thing.—*Journal of the Kansas Medical Society*.

The local medical society ought to know all about the doings of its local board of health, about its community water supply, the sewerage system, the sanitation of its school houses. It ought to lend its influence toward making clean, beautiful streets, regulating various nuisances, smoke, unnecessary noises, etc. The local society ought to have something actively to say and to do about the grossly immoral advertising and the nauseating patent medicine notices that appear in the local papers.—*Iowa Medical Journal*.

A Useful Discovery.—For 40 years physicists have been seeking some substance to serve as a screen, cutting off all the light and heat-giving rays of the spectrum, while allowing the invisible ultra-violet rays to pass. Finally, Prof. R. W. Wood of the Johns Hopkins University, has discovered the long-sought substance, which bears the name of nitrosodimethylanilin. When combined with cobalt glass, this substance furnishes a screen which allows only ultra-violet rays to pass through. The discovery is of importance for some difficult scientific investigations.—*Carolina Med. Jour.*

Opium in Infantile Diarrhea.—Kerr, in the *Brooklyn Medical Journal*, gives these rules: Use opium "always alone, never in combination." The indications for its use are: "1. When the evacuations are large and watery. 2. When they are small and nagging. 3. When, late in the disorder, the taking of food causes an almost immediate evacuation. Its use is contraindicated in the stage of active diarrhea before the bowel has been cleared out, or where the passages are foul smelling. It should never be used in the presence of high temperature and cerebral symptoms."

Physiologic Importance of Abundant Light.—The habit of keeping the window-shades down, which is so common a practice even when there is no direct sun-glare on the window, is a direct setting at naught of physiologic principles, which teach the importance to health of both body and mind of an abundance of light. Sir James Crichton-Browne, in an address on "Light and Sanitation" delivered at the jubilee conference of the Manchester and Salford Sanitary Association, said: "I have spoken of light as purifying our atmospheric environment and as freeing us from certain superficial parasitic distempers, and I wish now to remind you that it has still more deep and intimate human relations of a sanitary nature; for light is a necessary condition of mental and bodily well-being. Its tonic psychical effects are everywhere recognized. All properly organized men and women love the light, and it is not merely to children that darkness brings with it a sense of powerlessness, danger, and alarm. Essential for all the purposes of life, for the supply of oxygen on which existence depends, light is a universal stimulus."—*N. Y. Medical Journal*.

An Aseptic Newspaper.—The *Huron (S.D.) Journal-World* and its managing editor, Mr. W. E. Holbein, deserve great credit for a clean sheet, and a refreshing freedom from offensive advertising. This paper does not carry in its columns the advertisement of a patent medicine or a medical faker. A country newspaper that has the courage to exclude such matter and the moral strength to decline a source of revenue from such advertising should receive applause, commendation and support from every right-minded physician. The people of Huron are to be congratulated on the presence of such a man as Mr. Holbein, and Mr. Holbein is to be congratulated for living in a community that will support a clean and reputable paper. The *Lancet* extends its compliments, and expresses the hope that more country papers will follow this good example. It is vain to expect that the city dailies will follow this twentieth century leader—the revenue is too great from photographically illustrated testimonials, fakers of nauseating fame, and luring advice for criminal acts. Let us look forward to the time when the people shall be educated to read the news and not to waste

their gray matter on useless, nasty and body-destroying advertisements.—*Northwestern Lancet*.

No Contract Practice.—The following resolutions were adopted by the Hillsborough (Fla.) County Medical Society, at its November meeting:

WHEREAS, Some of the principal objects of our organization are to enable its members to receive just and full compensation for their services, and to maintain fair and equal ethical relations among its members, and to maintain dignified professional relations toward each other, and to promote the practice of more scientific medicine, and to protect its members from unjust discriminations in acquiring practice;

WHEREAS, There are present among us certain companies or societies conducted on the mutual benefit plan, which make and offer to make exclusive contracts with physicians and surgeons wherein the compensation for their services is less than the conventional fees for such services, and

WHEREAS, These societies have come to be recognized the world over as being demoralizing and baneful to the interests of the profession of medicine; therefore, be it

Resolved, That it is the sense of this society that entering into contracts to do medical and surgical service with any society, company, corporation or association, to the exclusion of any other physician or physicians or for compensation less than the conventional fees for such services, is undignified and unprofessional conduct and is injurious to the profession, and that the members of this society shall not enter into such contracts, *Provided*, That this resolution does not apply to United States Army surgeons, United States Marine-Hospital surgeons, United States Navy surgeons, nor to any city, county, state or national health officer nor to railroad surgeons.

Resolved, That we send a copy of these resolutions to each physician in Hillsborough County, requesting his co-operation in carrying out the same. Be it further

Resolved, That this resolution shall be and is by its adoption a part of the constitution and by-laws of this society, the same to be known as Amendment I of the by-laws.

Mrs. Eddy As She Really Is.

CLARENCE L. WHEATON, M.D.
DENVER.

A well-known lay journal* recently published an article under the above caption, referring to incidents in Mrs. Eddy's home life, in which appears the following:

Promptly at 2 o'clock the carriage appears every day, a handsome turnout; but unless it be for the heavy silver mountings of the harness with the small ornamental letter E here and there, there is nothing whatever about to attract special attention. It is a closed carriage and the driver himself wears no livery other than the silk hat and black coat. Her secretary always sits on the seat by the driver.

This brief description of Mrs. Eddy's livery is preceded by an account of her palatial home. Mrs. Eddy has indeed sown well the seed that could bring forth this luxurious harvest. I was not blinded, however, by the glare and glitter of it all; I thought of other things. I thought of the ignorant multitude who daily worship at the shrine of this self-appointed goddess of a new faith. I thought of the millions of homes on which the shadows nightly fall and the thousands of weeping mothers with broken hearts whose loved ones have journeyed thither "across the black interminable ocean, undulating and voiceless, which perchance stretches between these earthly coasts and those invisible shores," a sacrifice on the altar of the new faith.

I could see the empty trundle-bed, which so often lulled to sweet dreams the little boy blue of that home, and I thought of the countless thousands of innocents sacrificed to this delusion of the Twentieth Century, that stalks about in the garb of a "Christian" science. I thought of the millions and millions of followers of a faith that belongs to a voiceless age; to an age of darkness, ignorance and superstition; to an age in which there shines no star, where laws were neglected, an age of injustice and agony. I thought of this faith that offers a hope to the weary invalid, a hope that must fade away as the dew on the sun-kissed petals of the meadow flower, a hope that must vanish like the Magic Lake in mirage, above the silent and lonely sand-shrouded desert.

The Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service.

In August, 1887, the Hygienic Laboratory of this service was established in New York at the Marine Hospital, Staten

* The Ladies' Home Journal, November. The standing of this magazine would lead one to expect better things of it than endorsing this idiotic travesty on religion and lending its columns to help on such money-making schemes. The article should have appeared in the advertising pages; it was accompanied by an editorial note stating that it was approved for publication by the "profiteers."—Ed.

Island. It was transferred to Washington, with headquarters on the upper floor of the Butler Building, on June 11, 1891. Five acres of the reservation of the Naval Museum of Hygiene were set aside for a site, and an appropriation of \$35,000 was made by Congress, March 3, 1901, for a new building. This building is now completed and is being equipped. It will be occupied about Jan. 1, 1904.

The building is constructed of dark, hard-burned brick, with a basement, two stories and an attic. On the first floor are located the general office, the private offices of the director and assistant director, the zoologic laboratory, and the private office of the chief of that division. At the western end of this floor is the room devoted to photography. In this room will be placed the microphotographic apparatus, cases for the preservation of negatives and for the storage of special apparatus. This room is provided with a roll curtain, for lantern exhibitions to be given in connection with the instruction of student-officers. South of the main entrance, on this floor, is the library, which will contain shelf room for about 10,000 volumes. This room is provided with a long table in order that it may be used for board meetings.

The second floor has in the center, facing north, three rooms devoted to the private offices of the chiefs of the divisions of chemistry, pharmacology, and pathology and bacteriology, respectively. The west room is for the division of pathology and bacteriology. This room has benches so arranged that nine officers may be accommodated, each with an entire window for his own use. The small sterilizers, postmortem table, tables for the microtomes and the paraffin bath are placed in this room. By an ingenious arrangement, at each desk there is delivered a solution of trikresol, distilled water, tap water, and gas for a Bunsen burner. The east room on this floor is for the use of the divisions of chemistry and pharmacology. Benches, with necessary lockers, drawers, hoods and sinks are provided. This floor also contains the incubator and cold rooms. The incubator is maintained at a uniform temperature by means of an electric heater. The cold room is cooled by means of a special system of cold-air pipes.

In the basement are located the heating plant, necessary storage for coal and the large sterilizers. The building is provided with two elevators running from the basement to the attic.

An Act of Congress, approved July 1, 1902, provided that there should be an advisory board for the Hygienic Laboratory; this board to consist of three competent experts detailed from the Army, the Navy and the Bureau of Animal Industry, respectively, together with the director of the laboratory and five additional members on said board, to be appointed by the surgeon-general of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, who shall be skilled in laboratory work in its relation to public health. This act also provided that there shall be appointed, whenever in the opinion of the surgeon-general commissioned medical officers are not available for duty on this detail, competent persons to take charge of the divisions of chemistry, zoology and pharmacology. These chiefs of divisions shall be men skilled in their respective lines of scientific research work, especially in relation to the public health.

The results of the researches in the laboratory are published in laboratory bulletins. During the past year nine bulletins have been issued from the laboratory. Some of them, on account of their great importance from a public health standpoint, have attracted wide attention.

Plans are now under way for the production in the laboratory of a standard diphtheritic antitoxin for distribution to manufacturers, those engaged in research work, and others.

Officers of the service are detailed to the laboratory from time to time for special instruction in bacteriology and pathology. The course given is very complete, extending over a period of about twelve months. When these officers have completed the course they are competent to do independent research work.

The Act of Congress, approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous

products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes," and regulations approved in accordance with said act, placed the supervision of plants manufacturing these products under the Public Health and Marine-Hospital Service. The laboratory examination of these products is conducted in the Hygienic Laboratory.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Dec. 1 to 10. Chairman, W. H. Sanders, M.D., Montgomery.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8-10. Secretary, Dr. Frank Winders, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Louisiana Report.—Dr. Felix A. Larue, secretary and treasurer of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 26 and 27, 1903, as follows: Number of subjects, 10; questions, 50; percentage, 75; candidates, 30; passed, 22; failed, 8. Following are the colleges of the candidates, the years of graduation and the grades attained:

PASSED.

Tulane University, (1901)	82.6,*	88.4;	(1903)	84.4,	75.2,	80.8,
	78.2,	79.6.				
Memphis Hospital Med. Coll., (1903)	75.8,	77.2,	75.6,	75.		
Univ. of the South, Sewanee, Tenn., (1903)	75.6;*	(1899)	77.			
Baltimore Medical College.....	(1903)		84.2			
Jefferson Medical College.....	(1902)		92.8			
University of Tennessee.....	(1903)		81.2			
University Medical College, Kansas City.....	(1903)		78.0			
Louisville Medical College.....	(1886)		76.6*			
Fort Worth University.....	(1903)		86.8			
New Orleans University.....	(1903)		77.2*			
Walden University.....	(1903)		79.6*			
Illinois Medical College, Chicago.....	(1903)		75.2			

FAILED.

Memphis Hospital Medical College, (1903)	67.4;	(1896)	66.0.*			
University of Brussels (Belgium).....	(1872)		58.2			
University of the South (Sewanee).....	(1903)		69.0			
Kentucky School of Medicine.....	(1898)		64.2*			
Vanderbilt University.....	(1894)		71.0			
Walden University.....	(1903)		71.8			
New Orleans University.....	(1902)		69.0†			

* Second trial. † Third trial.

District of Columbia Report.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, D. C., Oct. 9 to 14, 1903, as follows: Number of subjects, 17; questions, 80 written; percentage, 75; candidates, 28; passed, 23; failed, 5. Following are the colleges of the candidates, the years of graduation and the grades attained.

PASSED.

Bellevue Hospital Medical College.....	(1897)	82.62.				
Chicago Homeopathic College.....	(1888)	75.03.				
Columbian University.....	(1901)	86.84;	(1902)			
	90.37,	88.93;	(1903)	86.09.	86.31,	89.21,
Georgetown University.....	(1901)	92.00,	82.34,	82.68,		
		85.62,	88.81.			
Howard University.....	(1902)	81.62;	(1903)			
		79.21,	78.09.			
Johns Hopkins Medical School.....	(1901)	86.62;	(1902)			
		91.09,	84.25.			
Tufts Coll. Med. School, Boston.....	(1897)	85.12.				
University of Maryland.....	(1899)	88.03.				
University of Pennsylvania.....	(1902)	77.15.				

FAILED.

Cleveland Medical College.....	(1893)	56.50.				
Coll. of Phys. and Surgs., Baltimore...	(1893)	71.90.				
Columbian University.....	(1903)	71.34.				
Howard University.....	(1903)	72.12;	(1902)			
		69.71.				

The secretary does not send the questions asked at the examination because "the board," he says, "does not consider the publication of such questions compatible with the best interests of medical examining and licensing boards."

Illinois October Report.—Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, October 21 to 23, 1903, as follows: Number of subjects examined in, 11; total questions, 110; percentage required to pass, 75; candidates examined, 49; passed, 43; failed, 6. The following were the colleges represented, with year of graduation and the grade attained:

PASSED.

Northwestern Univ., Chicago.....	(1903)	86	88	84	86	86.
Rush Medical College, Chicago.....	(1902)	85	(1903)	83	83.	
		80	90	85	84	78
					86	88
University of Michigan.....	(1888)	75	(1898)	88.		
Johns Hopkins Univ., Baltimore.....	(1899)	85	(1903)	87.		
Illinois Medical College, Chicago.....	(1903)	80	85	83	83	82.
						85.
Baltimore Medical College.....	(1903)	85.				
Marion-Sims-Beaumont Medical College.....	(1903)	77.				
Barnes Medical College, St. Louis.....	(1900)	76.				
University of Iowa, Iowa City.....	(1903)	84.				
Baltimore Univ. School of Medicine.....	(1903)	78	82.			
Chicago Homeo. Medical College.....	(1903)	80	81.			
National Med. Univ., Chicago.....	(1901)	80.				
Meharry Med. Coll., Nashville.....	(1903)	79.				
Coll. of P. and S., Chicago.....	(1903)	80	(1902)	88		
			(1903)	83	88.	
Denver and Gross Medical School.....	(1903)	83.				
Hering Medical College, Chicago.....	(1903)	81.				
Georgetown Uni., Washington. D. C.....	(1896)	89.				

FAILED.

Hahnemann Med. Coll. Chicago.....	(1884)	56.
Baltimore Univ. School of Medicine.....	(1898)	64.
Illinois Medical College, Chicago.....	(1903)	74.
National Med. Univ., Chicago.....	(1903)	71.

In addition to the above, one candidate withdrew on account of sickness and another was suspended for dishonesty in the examination.

Washington Report.—Dr. P. B. Swearingen, Tacoma, secretary, Washington State Board of Medical Examiners, reports a written examination at Spokane, July 6-7, 1903, as follows: Subjects covered, 16; questions, 139; candidates, 85; passed, 76; failed, 9. The percentage required of recent graduates was 75, of old practitioners, 70. The following is a summary by colleges:

PASSED.

Northwestern Univ., Chicago, (1893) 92 3/7; (1898) 90 3/7; (1902) 85 2/7.
Keokuk Medical College, (1901) 70 4/7.
Kansas City Medical College, (1903) 82 1/2; (1899) 83; (1903) 77 1/21; (1900) 77.
Louisville Medical College, (1901) 78 9/14; (1890) 70 9/14.
Harvard Medical College, (1903) 81 6/7.
Boston University, (1903) 83 5/14.
Detroit Medical College, (1902) 86 13/14; (1902) 77 13/14; (1902) 82 3/4; (1895) 78 3/14.
Ann Arbor Medical College, (1868) 73 3/7.
University of Michigan, (1886) 73 11/14.
University of Minnesota, (1892) 83 1/2; (1903) 84 2/7; (1902) 90 1/4; (1902) 91 3/7; (1901) 77; (1894) 76 3/14.
University of Maryland, (1893) 85 2/7.
Medical School of Maine, (1879) 73 2/7.
Barnes Med. Coll., (1903) 81 1/84; (1897) 79 2/7.
Marion Sims Medical College, (1892) 74 1/2.
Homeopathic Medical College, St. Louis, (1898) 78 5/14.
Missouri Medical College, (1899) 77 11/14.
St. Louis Medical College, (1873) 70 5/7.
Washington University, St. Louis, (1901) 83 1/4.
Bellevue Medical College, (1897) 84 1/7.
Ohio Medical College, (1901) 74 15/28.
Cleveland Medical College, (1883) 72 3/14.
Cincinnati Medical College, (1902) 75.
Eclectic Medical College, Mancelona, Mich., (?) (1879) 70 1/7.
Eclectic Medical College, Pennsylvania, (1868) 82.
University of Pennsylvania, (1895) 80 1/18; (1868) 72 1/14.
Hahnemann Medical College, Philadelphia, (1899) 93 3/14.
Cooper Medical College, (1903) 81 13/14; (1903) 87 1/4.
University of California, 85 3/7.
College of Physicians and Surgeons, Chicago, (1901) 85 5/7; (1903) 78 4/7; (1901) 79 1/14; (1903) 75 2/7; (1903) 91 3/14; (1896) 83 9/14; (1902) 83 1/2.
College of Physicians and Surgeons, San Francisco, (1902) 84 3/7.
College of Physicians and Surgeons, St. Louis, (1903) 85 5/7.
Illinois Medical College, (1902) 79 5/7.
Rush Medical College, (1881) 69 9/14; (1888) 72 1/2; (1903) 77 9/14; (1902) 85 5/7; (1901) 82 3/14.
Chicago Homeopathic Medical College, (1896) 82 4/7.
Hahnemann Medical College, Chicago, (1903) 78 6/7.
Woman's Medical College (place not given), (1903) 76 6/7.
Tennessee Medical College, (1895) 75 3/14; (1901) 75 2/7.
Washington, D. C., College (?), (1902) 81 5/7.
National University, Washington, D. C., (1901) 81 3/7.
McGill University, (1874) 82 1/2, 85; (1902) 85 6/7; (1901) 84.
Central Medical College, St. Joseph, Mo., (1900) 89 5/7.
Trinity Medical College, (1892) 70 5/7; (1894) 82 1/4.
Manitoba Medical College, (1899) 96.

FAILED.

Louisville Medical College, (1898)	60 13/14	(1900)	50 1/7.
Kentucky School of Medicine, (1897)	73 1/7.		
St. Joseph's Medical College, (1887)	56 6/7.		
New Hampshire Medical College, (1875)	63 1/28.		
Eclectic Medical Institute, Cincinnati, (1900)	65 4/7.		
California Medical College, (1902)	58 4/7.		
Cooper Medical College, (1897)	71 4/7.		
Rush Medical College, (1896)	62 5/21.		

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers of the U. S. Army for the week ending Nov. 28, 1903.

Torney, G. H., deputy surgeon-general, appointed a member of examining board at San Francisco for promotion of medical officers.

Kilbourne, H. S., deputy surgeon-general, relieved as member of examining board at San Francisco for promotion of officers of the medical department.

Grubbs, R. B., asst.-surgeon, relieved from duty at General Hospital, Presidio of San Francisco, and ordered to Fort Wright, Wash.

Rand, I. W., asst.-surgeon, relieved from duty at Fort Wright, Wash., and ordered to Ord Barracks, California.

Adair, Geo. W., deputy surgeon-general, having reported his arrival at San Francisco, Cal., is ordered to St. Paul, Minn., for duty as chief surgeon, Department of Dakota.

Byrne, Charles B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Dakota, and ordered to proceed to Omaha, Neb., for duty as chief surgeon, Department of Missouri.

Girard, J. B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Missouri, and ordered to San Antonio, Texas, for duty as chief surgeon, Department of Texas.

Kilbourne, H. S., deputy surgeon-general, relieved as chief surgeon, Department of California, and ordered to proceed to Manila, about Dec. 1, 1903.

Girard, A. C., asst.-surgeon-general, relieved from duty in the Division of the Philippines on the arrival of Colonel Kilbourne, and ordered to San Francisco, Cal., and on arrival to report by telegram to the Adjutant General of the Army.

Brechemin, Louis, surgeon, relieved from duty at Ord Barracks, Monterey, Cal., and ordered to San Francisco, Cal., to assume charge of the medical supply depot in that city.

Torney, G. H., deputy surgeon-general, relieved from duty at medical supply depot and to report to the commanding general, Department of California, for temporary duty as chief surgeon of that department.

Hoff, Jno. Van R., deputy surgeon-general, granted thirty days' leave, to take effect in December, 1903.

Webber, H. A., asst.-surgeon, relieved from duty in Division of the Philippines, now at San Francisco, Cal., will proceed to Fort Walla Walla, Wash., for duty.

Morse, Arthur W., asst.-surgeon, relieved from duty at Fort Walla Walla, Wash., and ordered to Vancouver Barracks, Wash.

Brooks, William H., asst.-surgeon, relieved from duty at Vancouver Barracks, Washington, and ordered to U. S. General Hospital, Washington Barracks, D. C., for duty.

Jean, Geo. W., asst.-surgeon, relieved from duty in Division of the Philippines and ordered to Fort Adams for duty.

Bushnell, Geo. E., surgeon, granted seven days' leave, with permission to apply for twenty-three days' extension.

Kilchards, Alfred, contract surgeon, granted one month's leave of absence and relieved from duty at Fort Hunt, Virginia.

Bailey, Edward, contract surgeon, relieved from duty at Fort Columbia, Washington, and ordered to San Francisco, Cal., to sail January 1 for Philippine service.

Turner, Samuel S., contract surgeon, ordered from Chicago, Ill., to Fort Columbia, Washington, for duty.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Nov. 28, 1903:

Huntington, E. O., surgeon, sick leave extended for three months.

Fauntleroy, A. M., asst.-surgeon, when discharged for treatment, ordered to the *Scorpion*.

DuBose, W. R., medical inspector, ordered to duty as assistant to the Bureau of Medicine and Surgery, Navy Department.

Urie, J. F., surgeon, detached from assistant chief Bureau of Medicine and Surgery and ordered to the *Missouri*.

Grayson, C. T., A. A. surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Hospital, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 26, 1903:

Sawtelle, H. W., surgeon, granted leave of absence for two days from November 27.

Gassaway, J. M., surgeon, department letter granting him leave of absence for one month, amended so that said leave shall be for twenty-five days from October 12.

Stoner, G. W., surgeon, leave of absence for five days from Nov. 24, 1903, under paragraph 189 of the Regulations.

Wickes, H. W., P. A. surgeon, granted leave of absence for five days from November 28.

Clark, T., P. A. surgeon, to proceed to St. Johns, N. B., and assume temporary charge of service during absence of A. A. Surgeon W. C. Billings.

Lumsden, L. L., P. A. surgeon, on expiration of leave of absence to remain at New Orleans and await assignment.

Billings, W. C., Corput, G. M., and Kerr, J. W., asst.-surgeons, to proceed to Washington, D. C., and report to chairman of examining board to determine their fitness for promotion to the grade of passed assistant surgeon.

Robinson, D. G., asst.-surgeon, to report to chairman of examining board, Port Townsend, Wash., to determine his fitness for promotion to the grade of passed assistant surgeon.

Currie, D. H., asst.-surgeon, to proceed to San Francisco Quarantine, and assume temporary charge of service during absence of P. A. Surgeon H. S. Cumming.

Manning, H. M., asst.-surgeon, relieved from duty at Stapleton, N. Y., and directed to proceed to Honolulu, T. H., and report to chief quarantine officer for duty.

Maguire, E. S., pharmacist, department letter granting leave of absence for thirty days from Dec. 5, 1903, amended so that said leave shall be from December 1.

BOARDS CONVENED.

Board to meet at Washington, D. C., Dec. 7, 1903, for examination of Asst.-Surgeons W. C. Billings, J. W. Kerr and G. M. Cor-
put, to determine their fitness for promotion to the grade of passed
assistant surgeon. Detail for the board: Asst.-Surgeon-General L.
L. Williams, chairman; Asst.-Surgeon-General W. J. Pettus; Asst.-
Surgeon-General G. T. Vaughan, recorder.

Board to meet at Port Townsend, Wash., Dec. 14, 1903, for ex-
amination of Asst.-Surgeon D. E. Robinson, to determine his fitness
for promotion to the grade of passed assistant surgeon. Detail for
the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon
H. S. Cumming; P. A. Surgeon M. H. Foster, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague
have been reported to the Surgeon-General, Public Health and
Marine-Hospital Service, during the week ended Nov. 27, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 8-21, 21 cases.
Colorado: Denver, Oct. 18-31, 10 cases.
Illinois: Belleville, Nov. 8-21, 11 cases.
Louisiana: New Orleans, Nov. 15-21, 1 case.
Massachusetts: Lawrence, Nov. 15-21, 1 case.
Michigan: Detroit, Nov. 15-21, 4 cases.
New Hampshire: Manchester, Nov. 15-21, 3 cases.
New Jersey: Camden, Nov. 15-21, 4 cases, 2 deaths.
New York: New York, Nov. 15-21, 4 cases.
Ohio: Nov. 15-21, Cleveland, 1 case; Youngstown, 11 cases.
Pennsylvania: Erie, Nov. 8-21, 3 cases; Nov. 15-21, Altoona, 1
case; Carbonale, 2 cases; Johnstown, 3 cases; Philadelphia, 68
cases, 7 deaths; Pittsburg, 32 cases, 6 deaths.
Tennessee: Memphis, Nov. 15-21, 3 cases.
Utah: Salt Lake City, Nov. 8-14, 3 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Nov. 1-7, 9 cases.
Brazil: Rio de Janeiro, Oct. 19-25, 40 cases, 34 deaths.
Canada: Manitoba, Winnipeg, Nov. 8-14, 1 case.
Colombia: Barranquilla, Nov. 2-18, 1 death.
Ecuador: Guayaquil, Oct. 18-31, 2 deaths.
France: Paris, Nov. 1-7, 3 cases.
Great Britain: Glasgow, Nov. 7-13, 7 cases, 1 death; Manchester,
Oct. 25-Nov. 7, 7 cases; Newcastle-on-Tyne, Nov. 1-7, 6 cases.
Java: Batavia, Oct. 11-17, 21 cases, 6 deaths.
Mexico: City of Mexico, Oct. 8-15, 1 case.
Netherlands: Amsterdam, Nov. 8-14, 3 cases.
Russia: Odessa, Oct. 19-25, 5 cases, 1 death; St. Petersburg,
Oct. 25-Nov. 7, 126 cases, 2 deaths; Warsaw, Oct. 18-24, 2 deaths.
Spain: Barcelona, Oct. 25-Nov. 7, 2 deaths.
Turkey: Smyrna, Oct. 19-Nov. 1, 68 deaths.

SMALLPOX—INSULAR.

Philippine Islands: Cebu, Sept. 1-30, 5 cases, 1 death; Manila,
Sept. 27-Oct. 10, 1 case.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 19-23, 4 cases; Laredo, Nov. 20-23, 68 cases,
5 deaths; Minera, Nov. 14-23, 6 cases; San Antonio, Nov. 15-23,
7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 1 case.
Mexico: Ciudad Victoria, Oct. 25-Nov. 7, 14 cases, 8 deaths;
Coatzacoalcas, Nov. 1-7, 2 cases, 2 imported; Oct. 25-Nov. 7,
Linares, 86 cases, 17 deaths; Merida, 4 cases, 2 deaths; Tampico,
3 cases; Tehuantepec, 2 deaths; Vera Cruz, Nov. 7-14, 17 cases,
5 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 27-Oct. 10, Manila, 90 cases, 84 deaths;
Provinces, 952 cases, 750 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Oct. 3-10, 7 deaths.
Japan: Magasaki, Oct. 20-26, 49 cases, 27 deaths; Yokohama,
Oct. 4-10, 1 case, 1 death.
Straits Settlements: Singapore, Sept. 1-30, 9 deaths; Singapore,
Sept. 27-Oct. 3, 1 case, 1 death.
Turkey: Syria, Alexandretta, Oct. 18-24, 2 cases, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Cebu, Sept. 1-30, 11 cases, 8 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 54 cases, 20 deaths.
China: Newchwang, Sept. 26-Oct. 3, 144 cases, 142 deaths..
India: Bombay, Oct. 20-27, 64 deaths; Calcutta, Oct. 18-24, 13
deaths.
Japan: Yokohama, May 10-Oct. 17, 20 cases, 23 deaths.

Medical Organization.

California.

MERCED COUNTY MEDICAL SOCIETY.—The physicians of the
county met at Merced, November 12, and organized a society
on the standard plan with the following officers: Dr. Edward
S. O'Brien, president; Dr. Hiram N. Rucker, vice-president;
Dr. Walter E. Lilley, secretary; Dr. Herbert De Loss, treas-
urer, and Drs. A. M. Smith and William A. Whitlock, censors,

all of Merced. Dr. Philip M. Jones, San Francisco, trustee of
the state society, was present and aided in the work of organi-
zation.

Louisiana.

ST. MARY PARISH MEDICAL SOCIETY.—Dr. William M. Per-
kins, New Orleans, secretary of the Louisiana State Medical
Society, and Dr. G. L. Williams, Oak Ridge, councilor for the
Fifth District, met with the physicians of the parish, October
24, and organized a county society on the standard plan with
the following officers: President, Dr. Sterling J. Gates.
Franklin; vice-president, Dr. William J. McLennan, Morgan
City, and secretary-treasurer, Dr. Gustave A. Sigur, Glencoe.

BI-PARISH MEDICAL SOCIETY OF ST. JOHN THE BAPTIST AND
ST. CHARLES PARISHES.—The physicians of these two parishes
met at Edgard, November 2, and organized a bi-parish society
with the aid of Dr. Andrew G. Friedericks, councilor for the
Second District, and Dr. Louis G. Le Beuf of New Orleans.
The following officers were elected: President, Dr. Louis T.
Donaldson, Reserve; vice-president, Dr. Newton C. Stevens.
Ama, and Dr. Norbert J. Simon, Wallace, secretary and treas-
urer. The society includes in its membership all the physicians
in these two parishes.

North Carolina.

WAKE COUNTY MEDICAL SOCIETY.—In accordance with the
standard plan suggested by the American Medical Association,
the physicians of Wake County met with Dr. Hubert A. Roy-
ster, councilor for the Sixth District, and organized a county
society. Dr. Albert Anderson, Wilson, councilor for the
Fourth District, was present, and addressed the assembly on
the subject of organization. The initial membership was 24.
The following officers were elected: Dr. J. J. L. McCullers,
McCullers, president; Dr. Lawrence B. Young, Rolesville, vice-
president; Dr. Harry G. Utley, Apex, secretary; Dr. Kemp B.
Battle, Raleigh, treasurer, and Drs. James M. Templeton,
Carey; Robert S. McGeachy, Raleigh, and Benjamin S. Utley,
Holly Springs, censors.

Oregon.

LANE COUNTY MEDICAL SOCIETY.—At the annual meeting held
in Eugene, November 14, the society decided to reorganize on
the standard plan.

Washington.

PACIFIC COUNTY MEDICAL SOCIETY.—This society, of which
Dr. George W. Overmeyer, South Bend, is president; Dr. Wil-
son Grewell, South Bend, secretary; Dr. William Klamke,
Ilwaco, vice-president, and Dr. Kennedy, South Bend, treas-
urer, has received its charter from the State Society.

Wisconsin.

WESTERN WISCONSIN DISTRICT MEDICAL SOCIETY.—This
society, which includes the physicians of Eau Claire, St. Croix,
Chippewa, Pierce, Dunn and Pepin counties, was organized at
Eau Claire, November 17, with Dr. Eugene L. Boothby, Ham-
mond, as president.

Texas.

FAYETTE COUNTY MEDICAL ASSOCIATION.—On November 11
the physicians of Fayette County met at La Grange and, after
Dr. Walter Shropshire, Yoakum, councilor for the Eighth
(DeWitt) District, had explained the standard plan of or-
ganization, perfected the organization of a county society with
the following officers: President, Dr. Henry A. Tutwiler,
Flatonia; vice-president, Dr. Otto Ehlinger, La Grange; sec-
retary, Dr. P. Chapman, Winchester, and censors, Drs. W. Allen,
Flatonia; A. Posch, Round Top, and John S. Zvesper, Am-
mannsville.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Atlanta, Ga.,
Dec. 15-17.
Western Surgical and Gynecological Association, Denver, Dec
28-29.

ACADEMY OF MEDICINE OF CLEVELAND.

Twelfth Regular Meeting, held Oct. 16, 1903.

The President, Dr. Harris G. Sherman, in the Chair.

Importance of the Etiologic Factor in the Treatment of
Cystitis.

DR. WILLIAM E. LOWER, the author of this paper, deplored
the fact that so many cases of cystitis were treated symp-

tomatically for long periods without having recourse to a cystoscopic examination which would often clear up the exact cause and lead to appropriate treatment and a speedy cure. Many physicians did not realize the ease and safety of this procedure in the hands of a specialist. In an extended series of cases he had failed to see any bad results from such an examination, one of the requirements, however, being an accurate knowledge of the appearance of the normal bladder. In nearly all instances bacteria are causative agents, the principal offenders being the colon bacillus, the staphylococcus, either the albus, aureus or citreus, the streptococcus, the tubercle bacillus and the gonococcus, the last two being rarely found alone. He insisted on the importance of treating urethral strictures, which often caused diverticula in the thickened bladder wall forming pockets of pus which often defied evacuation by simple vesical irrigation. When an insuperable obstacle to free drainage from below exists he advises suprapubic drainage. The value of cystoscopy in case of calculi or foreign bodies in the bladder was instanced by cases in which repeated sounding had failed to locate a stone which was at once revealed by cystoscopic examination.

Fourth of July Wounds.

DRS. DUDLEY P. ALLEN and A. I. LUDLOW presented a paper entitled "Wounds from Blank Cartridges, Observations on Sixteen Cases Cared for at Lakeside Hospital about July 4, 1903." The injuries were located in the abdominal wall once, in the scrotum once, and in the hand fourteen times; in the abdominal case the external wound was very small, but increased in size deeper down, the whole thickness of the wall was penetrated and the wad was found imbedded in the intestinal wall; on admission to the hospital several days after the accident the patient was suffering from septic peritonitis, to which he speedily succumbed. Of the remaining 15 cases, 10 were treated as soon as admitted by free opening of the wound under anesthesia, excision of the badly torn fragments of tissue, removal of the particles of wad, irrigation and packing with iodoform gauze. All of these recovered. Three had been admitted within 12 hours of the injury, 6 within 2 days, and 1 within 9 days. The remaining 5 cases, 4 of which were wounded on the hand and 1 in the scrotum, were suffering from tetanus on admission, the symptoms having appeared in 1 case within 6 days of the injury, in 2 cases within 7 days, and in 2 cases within 8 days. All had been incised and cleansed before coming to the hospital, but in no instance had this been thorough, portions of the wad being found in all of them on further exploration and cleansing. Antitetanic serum was given to all, in one case by injection into the lateral ventricles; antispasmodics and anodynes and even chloroform inhalations were also administered, but all died.

Dr. Allen was prompted to read this paper both on account of the professional interest of the subject and also by a sense of its public importance. The toy pistol of to-day is a much more dangerous weapon than that of a few years ago, which used paper caps. The injuries caused by these blank cartridges are even worse than those caused by bullets. He felt that the increasing mortality demands prohibition of the toy pistol. Dr. Ludlow presented the results of cultural and animal experiments from this series of cases. In 5 of the 10 cases of wounds of the hand primarily treated at the hospital cultures in 3 were sterile, in 2 streptococcus and staphylococcus albus were found. In the 5 cases with tetanus one proved sterile, possibly from the free use of bichlorid in the wound; 2 showed the *Bacillus aerogenes capsulatus* and the *Bacillus mucosa capsulatus*; the two just mentioned occurred with the streptococcus and a pseudotetanus bacillus in one case and in another with the tetanus bacillus. In the animal inoculations from the case showing tetanus one guinea-pig died with tetanic symptoms, but only the *Bacillus aerogenes capsulatus* was recovered from the site of inoculation. A number of dogs and guinea-pigs were experimentally shot with blank cartridges, and in others subcutaneous implantations of the contents of cartridges were made, but so far none had developed tetanus. The time elapsed has not yet been sufficient to bar the possibility of its development in some of these. Dr. Ludlow thinks

the occurrence of the *Bacillus aerogenes capsulatus* in all these fatal cases may be of value in suggesting further research along this line.

The paper was discussed by Drs. Briggs, Ladd, Hansom, Lincoln, Bunts, Friedrich, Rossenwasser, Wirt, Baker, Searl, Ballard and Moorehouse, some of whom quoted from the extensive article on this subject in *THE JOURNAL*, Aug. 29, 1903, entitled "The Fourth of July, 1903, Casualty List."

A resolution calling on the city council to prohibit the sale of toy pistols was then discussed and passed unanimously.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Oct. 8, 1903.

Dr. H. Brooker Mills in the Chair.

SYMPOSIUM ON SYPHILIS.

Recognition and Treatment of Acquired Syphilis.

DR. S. LEON GANS read a paper in which he called attention to the importance of always bearing in mind the essential pathologic lesion—the round-cell infiltration. The chancre, he stated, was rather a building-up than a breaking-down process, and pus is not always present. They usually appear only singly, and careful attention should be given to the mixed sore of Rollet in order to avoid further skin complications. The condition of the epitrochlear and postcervical ganglia should be carefully noted, as should also the history of susceptibility to rheumatism, headache, follicular tonsillitis, cephalgia, and all mouth and throat conditions; and all the superficial lymph glands should be carefully examined.

The cases which are particularly apt to be overlooked are those in which the syphilides are manifested by only one or two erythematous spots, the subsequent eruptions being delayed for months, or probably never appearing.

As to treatment, excision was not recommended. The sore should be kept clean, quiet and dry, and iodoform should be employed twice daily after immersion of the organ in hot water for ten minutes. For the treatment of the secondary lesions, the stomach and skin were thought to be the preferable routes of administration, although in selected cases hypodermics and vapors might be used; the author believed that the proper course was to wait for the full development of the disease as signified by the early syphilides, in the interim correcting any gastro-intestinal or nervous conditions. Tobacco, whiskey and champagne must be eliminated. The patient should be warned of his condition and the necessity for strictly following directions, and taking plenty of sleep and careful attention to hygiene.

Hereditary Syphilis.

DR. HOWARD S. KINNE read this paper, in which he stated that the manifestations are usually worse in the first child, thus showing that the tendency to transmission is less as the time goes on. It differs from acquired syphilis in that there is no chancre, nor can the symptoms be classed under distinct periods. The chief differential point is the alteration which inherited syphilis impresses on the nutrition and development, as is evidenced by the fatal *marasmus*, or acute inflammation of the epiphyses or chronic osteoperiostitis, producing deformity of the bones. The family history should be carefully considered, although the symptoms are varied and usually appear about six weeks after birth, consisting of coryza, erythematous or, in some instances, papular rash, soreness of the corners of the mouth, irritation of the laryngeal mucous membrane, and, unless the infection is very light, marked anemia, interference with the digestion and wasting of the body. Antisyphilitic treatment of the pregnant mother will reduce very materially the chances of the offspring being infected. The child should be carefully nourished, preferably breast-fed, and proper hygienic measures should be observed. Mercury and iodid should not be given unless symptoms require.

Diagnosis and Treatment of Syphilis of the Central Nervous System.

DR. LUTHER C. PETER considered only those conditions which were due to the direct action of the infection and not the symptoms due to organic changes following long after the disease has disappeared, in which he stated that variability in symptoms, absence of systematic grouping of symptoms, paralysis of cranial nerves, Argyll-Robertson pupils, irregularity of pupillary margin, inequality of pupils, apoplectiform and epileptiform attacks, recurring palsies, usually without loss of consciousness, numbness in extremities, increased reflexes, headache, vertigo and altered mental states, are symptoms which point to syphilis of the brain and its coverings. He reported the case of a man aged 39, the disease first developing several years after the appearance of the chancre, commencing with recurring numbness in the extremities, impairment of the bladder function, diplopia, headache, vertigo, difficulty in speech at times, spastic palsy of the left leg, partial palsy of the left arm, Argyll-Robertson pupil, impairment of sensation to the touch. He died six years after coming under observation from pneumonia, and postmortem examination revealed syphilis of the brain and cord and their coverings. The intermittent treatment with potassium iodid and mercury, the latter preferably by inunctions, was recommended, and it was felt that it should be persisted in for several years.

The Recognition and Treatment of Some of the Pharyngeal Lesions of Syphilis.

DR. LEWIS S. SOMERS considered: (1) The erythema; (2) the mucous patch, and (3) the ulceration. Erythema, he believed, was frequently mistaken for catarrhal pharyngitis or tonsillitis, especially in private practice. An examination of the erythema, however, will reveal a copper hue, and a marked tendency of small irregular patches of cloudy swelling to enlarge and present a bluish-white color; this is the mucous patch, the most frequent site of which is on the soft palate, pillars and tonsils, being oval, circular or stratiform in shape. In ulceration, the parts are covered with a thick, mucopurulent, offensive secretion; there is marked tendency to osseous destruction, particularly when the palate is involved. Tuberculosis, lupus, carcinoma and diphtheria may all conflict with this disease, although the former three would usually manifest prominent symptoms in other parts of the body, and the latter can easily be recognized by the presence of the specific organism. Three important diagnostic aids are: history of the initial infection, evidences of the disease in other parts of the body, and the response to specific treatment. Unless one of these is obtained one can not be perfectly sure of the diagnosis. Dr. Somers had obtained the best results in the erythema with proto-iodid of mercury in one-fourth to one-third grain doses two to three times daily; the disappearance of the congestion being accelerated in occasional cases by an astringent gargle. The same form of mercury, aided in some cases by the application of 20 to 50 per cent. solution of nitrate of silver, locally in some cases, and in others by the local application of a solution of chromic acid, has given the best results.

Syphilis of the Eye.

DR. WENDELL REBER said the most usual site for the primary sore is at the margin, or just without the margin, of the lids. The secondary phase is most frequently in the uveal tract. Records show 50 per cent. of all cases of iritis to be specific; this fact he believed was sufficient ground for suspecting every case of iritis until trauma, tuberculosis, microbial infection or the rheumatic diathesis has been shown to be causative. Choroiditis is as frequently of specific origin as iritis and is a valuable adjunct to diagnosis. The most frequent tertiary involvement are the intra-ocular and extra-ocular palsies, and these conditions, in the absence of diabetes or trauma, are usually of specific origin and the forerunners of locomotor ataxia or general paresis.

DISCUSSION.

DR. F. SAVARY PEARCE felt that the presence of diplopia should always be suggestive of specific disease, especially when

in conjunction with headache, which is usually worse at night and with increased reflexes. The reflexes are usually out of all proportion to the spasticity, which is due to the fact that the tertiary symptoms encroach on the nerves and irritate the motor cortex of the brain without destruction.

DR. A. BERN HIRSCH believed that the patient, when apparently cured, should be instructed to inform any physician who might in the future treat him for a return of such symptoms that so many years ago he had had similar symptoms.

DR. S. L. GANS felt that the physician was sometimes misled by the patient's social standing; he directed particular attention to the necessity of recognition of slight throat lesions.

DR. L. C. PETER felt that as good results could be obtained from small doses of potassium iodid as from the larger ones. Nervous syphilis he believed occurred within six months after the initial lesions, although there are exceptions, one of which had come under his notice in the case of a man suffering from hereditary syphilis, who was entirely free from symptoms from 6 to 45 years of age, at which time he had severe meningitis and cerebral ataxia.

DR. LEWIS S. SOMERS called particular attention to the necessity for impressing on the patient the exceedingly infectious character of the disease, and emphasized the value of tonic treatment in addition to the specific remedies.

Drs. Frank White, William H. Good, L. Sharp, A. Bernheimer and Carl Lee Felt also took part in the discussion. Cases were reported to show the obscurity of the syphilitic factor.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema of the Eyelids.

Brocq, in *Med. Press*, recommends, in the treatment of eczema of the eyelids, first a dietary excluding wine, alcohol, pork, cheese, fish and spicy food. Laxatives and cod-liver oil are advised in the general treatment. Locally he applies compresses of a warm boric acid solution morning and evening, after which the following application is applied locally:

R.	Zinci oxidi	
	Pulv. amyli, āā	3iiss 10
	Lanolini	
	Vaselini, āā	3iv 15

M. Ft. unguentum. Sig.: Apply locally. After the inflammatory period has subsided the following ointment is applied:

R.	Ung. hydrarg. oxidi flavi	gr. x 65
	Liq. petrolati	3vi 25

M. Ft. unguentum. Sig.: Apply locally night and morning.

Barber's Itch.

The following combinations are recommended by *Mercb's Archives* in the treatment of barber's itch:

R.	Resorcin	3i 4
	Glycerini	3ii 8
	Ung. aq. rosæ q. s. ad.	3ii 60

M. Ft. unguentum. Sig.: Apply locally several times a day, first removing the crusts with sweet oil; or:

R.	Naphthol resublim.	3ss 2
	Saponis mollis	
	Cretæ prep.	
	Sulphuris loti	
	Lanolini, āā	3iii 12

M. Sig.: To be applied on the face at bedtime.

Furunculosis.

In furunculosis the same author recommends strong purging by administering a glass of some mineral water daily for three or four days, when a teaspoonful of fresh beer yeast is ordered given in teaspoonful doses before each meal in a glass of water. This should be continued for eight days.

Wine, alcohol and pork must be excluded from the diet. If the digestive tract is in good condition, cod-liver oil, arsenic and iron may be given with benefit. Locally an effort should be made to arrest the development of the boil by the application of the tincture of iodine or lint moistened with spirits of camphor or a mixture of both in equal parts. The following has also been recommended:

R. Iodi 3i 4
Acetone 3iii 12

M. Sig.: The boil should be touched lightly with this mixture and usually it is dried up the following day. This preparation is very caustic and should be applied with care.

Gastric Neurasthenia.

Blackburn, in the *N. Y. Med. Times*, recommends, in the treatment of gastric-neurasthenia, physical rest, specific instructions to the patient as to hours for sleep and for rest during the day and a demand that they be closely followed. Patients should be warned against overexercising.

The Weir Mitchell rest treatment may be instituted for a time, but as a rule is not necessary in the gastric form. Hydrotherapy in the form of sponge, shower or cold douche in the morning is of service. The diet should be nourishing and non-stimulating. As to the medicinal treatment, he recommends proper elimination, the relief of constipation by a laxative containing aloes. As a tonic he recommends the syrup of hypophosphites with strychnia. One of the following combinations may be of service to relieve the constipation in such cases, as recommended by *Rev. Francaise de Med. et de Chir.*

R. Tinct. gentianæ 3i 4
Tinct. calumbæ, aa 3ss 2
Tinct. nucis vom. 3ss 2

M. Sig.: Twelve to fifteen drops in water before each meal; or:

R. Pulv. nucis vom. gr. ss 30
Ext. gentianæ gr. iss 90
Pulv. gentianæ q. s.

M. Ft. cap. No. i. Sig.: One such capsule once or twice daily.

Alcoholic Excess.

The following combination is recommended by O. H. Snider, in *Med. Bulletin*, in the treatment of excessive use of alcohol followed by extreme depression, irritable nervous system and cerebral disturbances:

R. Sodii brom. 3ii 8
Ext. hyoscyami flu. 3i 4
Ext. lobelia flu., aa 3i 4
Ext. pulsatilla flu. gtt. xx 130
Ext. lupulini flu. 3ii 8
Aqua menth. pip. q. s. ad. 3ii 60

M. Sig.: One teaspoonful and repeat in four hours if necessary. The patient must be given rest and comfort. During convalescence strychnia or nux vomica should be given with the bitter tonics.

Administration of Digitalis.

In an abstract in *Ther. Gazette*, Barié of Paris points out errors which may be committed in giving digitalis without having first thoroughly cleansed the digestive tract. He therefore recommends a purgative such as the compound jalap powder in preference to castor oil or salines previous to administering digitalis. He also emphasizes the importance of absolute rest in bed and a milk diet. In some cases the presence of edema and ascites and effusion into the pleural cavity is such an obstacle that the digitalis can not have much effect until the excessive venous pressure is relieved. Under such circumstances venesection should be performed, removing about 300 grams to relieve the stasis. He also states that digitalis should not be begun in large doses when tricuspid insufficiency is present, as this is a sort of safety valve. Aged persons and those suffering from arteriosclerosis are to be given digitalis with care as the kidneys are apt to be deficient and the arteries bad. It should never be given to patients suffering from anemia, dyspepsia, Basedow's disease, tuberculosis in its initial stage or to those who are addicted to smoking. It should never be used in aortic insufficiency in its initial stage owing to the fact that it increases the length of diastole.

Such drugs as opium, the iodids, alcohol, and tannic acid should not be used at the same time with digitalis.

Antiseptic and Cleansing Sprays.

The following combinations are recommended by Shurtz in his "Dis. of Throat and Nose":

R. Sodii benzoatis gr. v 30
Acidi carbol. gr. i 60
Glycerini 3i 4
Aq. destil. 3vii 28

M. Sig.: To be used in the atomizer as an antiseptic spray.

In all forms of acute coryza the following is recommended:

R. Sodii benzoatis 3ss 15
Aq. calcis 3viii 240

M. Sig.: As a nasal spray or douche.

In syphilitic lesions and ulcerations the following is of service:

R. Hydrarg. bichloridi gr. i 60
Aq. cinnamomi 3viii-xvi 250-500

M. Sig.: Locally to the pharynx and larynx.

As an astringent to the throat the following is advised:

R. Sodii bicarb. gr. xxv 105
Ext. hamamelidis destil. 3i 30
Aq. destil. 3v 150

M. Sig.: As a cleansing and astringent spray.

As an anodyne the following:

R. Menthol gr. i 60
Alcoholis m. v 30
Calc. phos. precip. gr. v 30
Aqua q. s. ad. 3ii 60

M. Sig.: Locally as an anodyne.

The following containing alumol is serviceable as an astringent and anodyne to the tissues of the throat:

R. Cocainæ gr. v 30
Alumol gr. x 65
Aqua menthol 3i 30

M. Sig.: Locally as an astringent; or:

R. Menthol gr. v 30
Glycerini 3ii 60
Cocainæ gr. xx 130
Aqua 3ii 60

M. Sig.: Locally as an astringent and anodyne.

Vomiting During Administration of Chloroform.

According to Stuver, in *Denver Med. Times*, painting the mucous membrane of the nares with a 2 per cent. solution of cocain will prevent, in the majority of cases, the vomiting which so frequently accompanies chloroform anesthesia. He has employed this method in about twenty cases with splendid results. In several of the cases in which the patients had suffered a great deal from vomiting during previous operations, this method had prevented all such symptoms. He applies the solution thoroughly to the mucous membrane by means of a cotton-wrapped applicator, ten or fifteen minutes before starting the anesthetic. The cocain inhibits the reflex action and irritation of the stomach which, if present, frequently inhibits the heart's action. According to the author observations have been made which show that irritation to the nasal mucous membrane may affect the heart's action through irritation of fibers of the pneumogastric, consequently by the above procedure the danger of cardiac and respiratory failure, as well as shock, are decidedly lessened.

Medicolegal.

Keeping Registry of Births and Deaths Without Pay.—Sections 2582 and 2583 of the Kentucky Statutes of 1899 make it the duty of all physicians, surgeons and midwives to keep a registry of all births and deaths which they have professionally attended, and to report them to the county clerk. In the case of *Commonwealth vs. McConnell*, where there was an indictment for non-compliance with these requirements, it was urged that the statute was unconstitutional because

it required physicians to perform a service without compensation, and that the legislature had no power so to do. But the Court of Appeals of Kentucky does not think the statute unconstitutional on that ground and affirms that the legislature has authority to require said duties.

Minnesota—Restricts Commitment of Harmless Insane.—Chapter 106 of the Laws of Minnesota of 1903 provides that no harmless person, who can not be benefited by hospital treatment, shall be committed to any hospital for the insane merely because he is suffering from idiocy, epilepsy, imbecility or infirmity of old age. Every jury appointed to examine an alleged insane person, in addition to the facts by law required to be ascertained, shall ascertain and determine whether or not such patient can be benefited by hospital treatment. The superintendent of any hospital for the insane, with the approval of the board of control, may at their discretion discharge or parole any inmate of such institution who is capable of caring for himself or can be cared for by relatives, and who is not dangerous to himself or the community.

Minnesota—Puts Check on Compulsory Vaccination.—Chapter 299 of the Laws of Minnesota of 1903 provides that hereafter it shall be unlawful for any board of health, board of education, or any other public board or officer, acting in the state under police regulations or otherwise, or under any general law or city charter however adopted, to compel or require the vaccination of any child, or to make vaccination a condition precedent to the attendance at any school in the state, or to exclude any child or other person from attendance on any school on account of such child not having been vaccinated; except that, in epidemics of smallpox, such boards of health and boards of education may, by joint action, require such vaccination by a duly licensed and practicing physician, to be selected by the person to be vaccinated; provided, that any child may be exempt from the provisions of this act where a reputable physician certifies in writing that on account of said child's physical condition such vaccination would be dangerous to the child's health.

Minnesota—Establishes Sanatorium for Consumptives.—Chapter 316 of the Laws of Minnesota of 1903 provides for an advisory commission of five physicians (one a homeopath) and the establishment of a sanatorium for consumptives near Walker, in Cass County. The commission shall appoint in each county from one to three reputable physicians who shall examine on the presentation of orders from the superintendent of the sanatorium all persons applying for admission and determine whether such persons are suffering from incipient pulmonary tuberculosis, and forthwith report the result of such examinations to the superintendent of the sanatorium. Only persons suffering from incipient pulmonary tuberculosis shall be received as patients in the sanatorium. One of the prescribed duties of the superintendent shall be to oversee and secure the individual treatment and personal care of each patient while a resident in the hospital and to keep a proper oversight of all inhabitants thereof. He must also maintain a salutary discipline among all employes, patients and inmates and enforce strict compliance with his instructions and obedience of all rules and regulations; he must cause full and fair accounts of the conditions and prescriptions of the patients to be kept regularly from day to day in books provided for that purpose. The inmates must pay when able to do so, but any person unable to pay the charge for support determined by the board of control may be admitted on the request of the county commissioners of the county whereof such person is a resident, and the charges for the board of such person shall be paid by such county.

New Mexico—To Encourage Establishing Sanitariums.—Chapter 17 of the Laws of New Mexico of 1903 provides that any company or corporation which shall, within one year from the passage of this act, commence and within two years after the passage of this act shall have expended at least \$100,000 in the construction of a sanitarium in New Mexico for the care of invalids and persons with tuberculosis and other pulmonary diseases, shall thereafter be exempt from taxation on all property actually used in connection with such sani-

tarium for a period of six years after the expiration of two years after the passage of this act.

New York—Ban on Careless Distribution of Medicines.—Chapter 494 of the Laws of New York of 1903 provides that any person, corporation, etc., who distributes or causes to be distributed, any free or trial samples of any medicine, drug, chemical or chemical compound, by leaving the same exposed on the ground, sidewalk, porch, doorway, letter boxes, or in any other manner, that children may become possessed of the same, shall be guilty of a misdemeanor, etc.

New York—Requires Consents for Tuberculosis Camps.—Chapter 638 of the Laws of New York of 1903 provides that a hospital camp or other establishment for patients with pulmonary tuberculosis shall not be established in any town unless the board of supervisors of the county, and the town board of the town, shall each adopt a resolution authorizing the establishment thereof, and describing the limits of the locality in which the same may be established.

New York—Creates Office of Medical Inspector.—Chapter 221 of the Laws of New York of 1903 amends Section 4 of Chapter 545 of the laws of 1896, by providing that the commission in lunacy may appoint a medical inspector, who shall be a well-educated physician, a graduate of an incorporated medical college, and who shall have had actual experience in an institution for the care and treatment of the insane. Such inspector shall receive an annual salary of \$3,500, and traveling expenses. He shall, subject to the direction of the commission, inspect the state hospitals and other institutions for the insane which are subject to the supervision or visitation of the commission, and shall make an examination, so far as circumstances may permit, of the patients therein confined, especially those admitted thereto since his preceding visit, giving such as may request it suitable opportunity to converse with him apart from the officers and attendants. He shall perform such other duties as may be prescribed and directed by the commission.

North Dakota—Prohibition on Distribution of Drugs.—Chapter 81 of the Laws of North Dakota of 1903 provides that any person who shall by himself, his servant or agent, or as the servant or agent of any person, leave or deposit on the doorstep or premises owned or occupied by another, or who shall deliver to any child under 14 years of age, any patent or proprietary medicine or any preparation, pill, tablet, powder, cosmetic, disinfectant or antiseptic, or any drug or medicine that contains poison or any ingredient deleterious to health, as a sample, or in any quantity whatever for the purpose of advertising, shall be deemed guilty of a misdemeanor. The terms used in this act shall include all remedies for internal or external use, either in packages or bulk, simple, mixed or compounded.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

November 21.

- 1 *Experiments to Determine the Value of Formalin in Infected Wounds of the Eye. J. H. Claiborne and Edward B. Coburn.
- 2 *"The Heart Cure"; Its Terminology, Purposes and Achievements, Including the Etiology of Fatty Degeneration. Homer Wakefield.
- 3 *The Relation of Mild Types of Diphtheria to the Public Health. Thomas W. Salmon.
- 4 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) Charles F. Painter and William G. Erving.
- 5 Eclampsia Hemorrhagica. Report of a Case. Ralph W. Lovestine.
- 6 Who May Benefit by Altitude Treatment? J. N. Hall.

1. **Formalin in Infected Eye Wounds.**—The experiments of Claiborne and Coburn were made on rabbits' eyes, and are reported in detail. They find that formalin, 1 to 500, can be injected into the vitreous of rabbits without producing more than momentary disturbance. It is possible to cause panophthalmitis and destruction of the eyes by injecting 3

minims of a turbid solution of streptococci into the vitreous. It is also possible to produce the same result by infection in the ciliary region caused by penetrating wounds with infected pointed instruments. Infections of the vitreous and ciliary region do not necessarily cause destruction of the eye. At times the inflammatory symptoms gradually subside and the eye recovers spontaneously. Formalin, 1 to 1,000, when injected into the vitreous has no influence on streptococcus infection. The results of these experiments warrant the treatment of commencing infections of the eye by injections into the capsule or Tenon of 1 in 1,000, or even 1 in 500 formalin solution.

2 "The Heart Cure"—This method, which is not properly designated as the Nauheim or Schott method in Wakefield's opinion, is described at length. He first considers the pathologic conditions, and holds that the two principal degenerations of heart disease, namely, gelatiniform and fatty metamorphosis, are entirely due to and dependent on suboxidation from cardiac and blood deficiencies, and are preventable, arrestable and restorable in the great majority of cases. His own plan of treatment is to restore oxidation and to lighten the heart's load and clear out the vascular system. He uses oxygen by nose inhalation through a tube of an abundance of nascent oxygen gas, or the whole atmosphere of a small room is impregnated with it. He administers iron and enemata of a 50 to 100 per cent saturated solution of sodium bicarbonate sometimes adding hydrogen peroxid, all at a temperature of blood heat. He always gives glycerophosphates or phosphated oil internally. To clear out the portal and vascular system in general he uses very small doses of calomel and a saline cathartic, supplemented by warmth to the extremities and drinking cold water between meals. But the restoration of oxidation is by far the best remedy for the clearing of the circulation, the relief or resistance to arterial flow and consequent relief to the heart. He finds that a teaspoonful dose of hydrogen peroxid every three hours has restored the twenty-four hour urine to about 50 ounces in cases of serious ururia, where one twenty-fifth grain doses of nitroglycerin had singularly failed. He has repeatedly promptly arrested cardiac hemorrhages with immediate inhalations of nascent oxygen gas and, combined with soda colon injections, they have been promptly controlled and entirely reduced marked thoracic and abdominal dropsies. As the patients improve he gives light frictional brushings and massage, and begins the bath treatment by immersing the feet in a carbonic acid or a cap-sicum bath. He thinks the real secret of the bath cure lies in its physiologic effect as a cold bath, and that carbonic acid and alkalis simply counteract the cold by stimulation. Among the drugs, he specially mentions ergot and adrenalin in well adapted cases. The last one, however, is dangerous for careless prescribing. Arsenic, phosphites, lead, etc., even mercury in large doses, are contraindicated. For beverages he disbelieves in the free administration of liquor, but when not continuously given it is a valuable stimulant for emergencies. He often institutes the full bath before the patient is able to walk to and from the baths or from one room to another. In using the glycerophosphates he warns against proprietary preparations containing an abundance of alcohol and sugars.

3 Diphtheria—Salmon calls attention to the occurrence of catarrhal diphtheria, as he calls it, in which there is no false membrane. He urges the necessity of its isolation.

4 Chronic Villous Arthritis—Painter and Living's article is continued with reports of cases. The etiology is also discussed, trauma, infections, diathetic conditions, etc., and the clinical history described. The treatment varies with the cause. Very many of the early cases when caused by pronated or flat foot, where the condition in the knee joint is that of a passive hyperemia due to the malposition, are promptly and permanently cured by appropriate support, adhesive plaster strapping, etc. Where due to diathesis such treatment is only palliative and in these cases where it fails operative measures should be taken. The technique of the operation is described. (The article is to be continued.)

Medical Record, New York.

November 21

- 7 *Traumatic Locomotor Ataxia Allan M Hamilton
- 8 *Intravenous Injections of Colloidal Silver in the Treatment of Myriaplas Warren Coleman
- 9 Chronic Cyanosis of the Extremities Associated with Polycythemia and Splenomegaly Joseph Collins
- 10 *The prognosis and treatment of Chronic Deafness Philip D Killion
- 11 *Internal Administration of Ichthyol in Pulmonary Affections Maurice Rosenberg
- 12 An Extreme Case of Bradycardia L D Nordeet

7 Traumatic Locomotor Ataxia.—The conditions here described are chiefly the hysterical results of traumatism though other conditions are recognized as possibly suggesting permanent injury in the posterior columns. Hamilton also relates cases of traumatic neuritis with recurrent hyperemia and pressure, and cases illustrating different types of pseudotabes.

8 Erysipelas.—Coleman reports 5 cases of erysipelas treated by intravenous injections of colloidal silver. The method is harmless, and he describes the technique. He uses a hypodermic needle and injects as near as possible in the long axis of the vein, if necessary withdrawing a little blood to be sure that it is properly inserted, avoiding all chance of introducing air. The contents of the syringe should be injected slowly and none allowed to escape into the tissues where it would produce burning pain which might last for hours. He injects 5 to 10 cc of 1 per cent solution. While not venturing to draw conclusions too positively, he is convinced from his experience with some 20 cases of the harmlessness of the method, and recommends it in appropriate conditions. If the injections do not benefit the patient, he says, they will do no harm.

10 Chronic Deafness.—Kerrison notices the various forms of chronic deafness due to tubal catarrh, hypertrophic catarrh, suppurative processes and chronic hyperplastic otitis. He concludes that there are certain cases of advanced catarrhal deafness, even without evidence of serious labyrinthian involvement, that do not respond to treatment, but that in a large proportion of cases the power of audition can be distinctly improved. In the early stages of catarrhal or tympanic deafness the majority of cases are susceptible to practically complete cure. In the advanced stages of catarrhal deafness rational treatment often results in improvement, which adds to the pleasures of life, though the normal hearing power may never be regained. Where a slight improvement of hearing is brought about, the result is often of value to the patient in arresting a process that may otherwise lead to pronounced or total deafness.

11 Ichthyol in Pulmonary Affections.—Four cases are reported by Rosenberg, who administers the drug in water, never in capsules, giving it before meals. In no case was there any digestive disturbance except a slight diarrhea, with some eructation, which stops when the patient becomes accustomed to the drug. He finds it increases assimilation, improves nutrition, checks pain, increases the body weight and acts as a germicide against the tubercle bacillus. Though he does not put it before the profession as a specific, he has found that much good can be derived from its use.

New York Medical Journal.

November 21

- 13 *Ocular Headache and Other Ocular Reflexes, a Statistical Study (To be continued) M W Zimmerman
- 14 *A Clinical Study of the Use of Antitoxin Serum (Dunbar's) in Hay Fever During the Season of 1903 A New and Distinct Advance in Its Management Alexander W MacCoy
- 15 *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver (To be continued) Hermann G Klotz
- 16 *The Early Operative Treatment of Tuberculous Osteitis of the Knee (To be concluded) Bernard Barlow
- 17 Brain fag and Its Effects on Health John Knott
- 18 The Course and Diagnosis of Varicella—Based on Its Last Outbreak in New York City William L Somerset
- 19 *The Effect of Lemon Juice in the Mixture Known as Lemonade on Typhoid Polluted Water William G Bissell

13 Ocular Headache.—Zimmerman has investigated optical errors as related to the production of headaches, and gives the results. In 1,000 private cases he found frontal headache in 279, no details in 257, and small numbers with headaches localized elsewhere. In 1,000 hospital cases the proportion

of frontal headache was still greater, being 391. The similarity between the two series was very marked. As regards the conditions of sight and muscular errors, he found hypermetropic astigmatism to predominate in the production of headaches or co-exist with such. In 277 cases of heterophoria without headache there were 129 cases of hypermetropic astigmatism with small numbers of other types. In heterophoria with headache the hypermetropic astigmatism occurred in 356 out of 550 cases. (The paper is to be continued.)

14. Hay Fever.—MacCoy has used Dunbar's serum and reports 6 cases. In a total of 15 cases with which he experimented the effect was promptly manifested and relief complete. They appeared to confirm the contention of Professor Dunbar that cases of hay fever are dependent on toxins resident in the pollens of various grasses. MacCoy thinks this opens up a new field in serum therapy, being, as far as he is aware, the first instance of the production of antitoxin serum or fluid where the animal product has been crossed with the vegetable product.

15. Gonorrhea.—Klotz has employed deep injections of silver solutions, passing the injection syringe back to the bulbar region and there injecting from a side opening in the nozzle, and gradually withdrawing it, the meatus being closed. After two minutes or more the fluid is allowed to escape, and usually another syringeful is injected. Finally, some absorbent cotton is placed in front of the meatus to absorb the excess. The burning sensation produced is of short duration. An increased discharge appears, almost cheesy looking, which diminishes or disappears after ten to twelve hours. At this time the patient begins in the usual way to use some of the common antiseptic or astringent solutions. If an increase in the discharge appears in four or five days the silver injections should be repeated, usually in stronger solution than at first, and in this way the treatment is continued. Finally, a test of the effects of beer and whisky is allowed. He has been surprised with the good results in some of these cases. As to the solutions used, he has tried ichthargin, argentamine, albargin, protargol and argonin. After an extensive trial he has been very well satisfied with albargin which acts mildly and is clean. He uses a strength of from 1 to 5 per cent. He finds that, after all, the solutions of nitrate of silver have sometimes proven most reliable, the more so the longer the disease has lasted. (The article is to be continued.)

16. Tuberculous Osteitis of the Knee.—The method advocated by Bartow is an operative procedure, trephining the condyle in the suspected locality and removing any local focus of infection, followed by a correction of the knee malposture. The employment of this operation when tuberculous osteitis has advanced too far has led to a discrediting of its value. The presumed impossibility of locating the focus, with the possible presence of multiple foci, have also had their effect. He thinks, however, from his own experience, that the method deserves further employment. (The paper is not completed in this issue.)

19.—See abstract in *THE JOURNAL* of November 21, p. 1293.

American Medicine, Philadelphia.

November 21.

- 20 *The Treatment of Surgical Shock by Adrenalin. Edward Martin and M. E. Pennington.
- 21 Nine Cases of Resection of the Intestine. George Tully Vaughan.
- 22 A Unique Case: Molluscum Fibrosum of the Rectum in a Patient with the Typical Skin Lesion. A. B. Cook.
- 23 *Growth and Development of Children in Colorado. Charles F. Gardiner and Henry W. Hoagland.
- 24 The Use and Abuse of Fresh Air and Over-feeding in Tuberculosis. W. H. Prioleau.
- 25 A Consideration of General Anesthesia with a Presentation of Instruments. Frederick Griffith.
- 26 The Influence of the University of Maryland on Medical Education. John C. Hemmeter.

20. Adrenalin in Surgical Shock.—The action and outcome of adrenalin in the system is discussed by Martin and Pennington, who report the results of experiments and also 5 instances of the clinical use of the drug in shock. All the cases were practically moribund, and there was not one in which there was a fair chance of recovery. The clinical evidence is therefore inconclusive. Laboratory experiments apparently show

that the intravenous injection of adrenalin is the most powerful, practicable cardiac and vasomotor stimulant yet presented to the profession. It also stimulates the respiratory center and increases metabolism and body temperature, but it is inert so far as its systemic effect is concerned when given either by the mouth or by the rectum on account of its rapid alteration in the body. The toxic dose for man is not known, but is probably over a hundred times greater than that usually employed. The dilution, on account of the tendency to abscess formation, should be at least 1 to 10,000 when given hypodermically, but he thinks it is safe to give an initial dose of 10 c.c. of 1 to 1,000 in 90 c.c. of normal salt solution. In cases of urgency adrenalin chlorid should be given intravenously in a dilution of 1 to 10,000, injected slowly to prolong the effects of the drug, and should be pushed up to 100 c.c. of the strong solution or until the heart clearly and unmistakably responds. As yet there is no convincing clinical proof that it is as efficacious when used on man as laboratory experiments would lead us to believe. On account of its power of lessening the bacteriolytic power of the blood of animals, its use in cases of infection in the human should be with great caution until wider experience has proven its safety or danger.

23. The Development of Children in Colorado.—Gardiner and Hoagland have tested the lung capacity and respiratory movements of children at Colorado Springs as compared with those of Chicago, St. Louis and other Eastern cities; also the growth at various ages, chest measurements, average weight, etc. They find that there is a climatic factor in Colorado that favors the development. Native-born Colorado children are taller and weigh more, as well as have greater respiratory capacity than those of Eastern cities.

Boston Medical and Surgical Journal.

November 19.

- 27 *Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis. Arthur T. Cabot.
- 28 *Unclean Milk, Bovine Tuberculosis and the Tuberculin Test—Their Relation to the Public Health. (To be continued.) E. R. Larned.

27. Catheter Drainage in Pyelonephritis.—Cabot has treated a certain proportion of his cases of kidney disorder connected with prostatic obstruction by the installment of permanent catheter drainage, the urine being removed as rapidly as it flows in. The relief of pressure, he thinks, extends even through the uriniferous tubules into the malpighian bodies. He puts a soft catheter into the bladder and arranges it so that it draws the urine steadily without irritating the vesical walls. It should be watched so closely as to insure that it shall never stop running for more than a few minutes at a time. This is no new method for bladder trouble, but he has not seen it mentioned for kidney troubles. The only explanation for the good effects on the kidneys that he has observed is that the ureters gradually contract somewhat when internal pressure is relieved, and the bladder being no longer stretched, its muscular coat recovers its tone and restores the valvular condition at the ureteric orifice. He gives water freely at the same time, and has noticed a decided increase in the quantity of urine passed. His conclusions are that the relief of tension in kidneys which, owing to long obstruction, are exhibiting the clinical phenomena of interstitial nephritis, usually brings about a return of normal function, thus indicating that the renal condition is directly due to the obstruction and increased tension. It seems probable that with dilated ureters, permitting regurgitation of urine into the kidney pelves, long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters, and the retro-flow of urine will thus be stopped.

28. Milk.—Larned advocates all the precautions to insure pure milk, free from infections, the use of the tuberculin test to eradicate tuberculosis in herds, and careful milk inspection in cities. He has made cultural experiments in the city of Joliet and finds no samples entirely satisfactory. He notices the improvement in the milk supply of Chicago owing to the efforts of the department of health of that city.

Cincinnati Lancet-Clinic.

November 21.

- 29 The Lateral Pelvic Segment of the Ureter (The Parietal Fixed or Descending Segment). Byron Robinson.
- 30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Hicketts.

American Journal of Insanity, Baltimore.

October.

- 31 Extracts from the Writings of Wilhelm Griesinger. A Prophet of the Newer Psychiatry. (Concluded.) Translated by Frank R. Smith.
- 32 Hydrocephalus Internus in the Adult. Henry J. Berkley.
- 33 The Pathology of Acute Delirium. H. A. Tomlinson.
- 34 Recognition of the Insane in Penal Institutions a Factor in Diminishing Crime. Frank W. Robertson.
- 35 The Fluctuation of Insanity in Connecticut as Shown by a Study of Cases Admitted to the Connecticut Hospital for the Insane. Rollin H. Burr.
- 36 The Study of Non-dementing Psychoses by Laboratory Methods with Remarks on the Localization of the Disorder. Charles L. Dana.
- 37 Status Epilepticus: A Clinical and Pathologic Study in Epilepsy. L. Pierce Clark and Thomas P. Prout.
- 38 The Object to be Attained by an Organization of Assistant Physicians. A. P. Ohlmacher.
- 39 Report of Observations Made in the Clinic of Dr. J. Babinski, Paris. With Special Reference to Some New Aids in the Diagnosis and Treatment of Nervous and Mental Disease. Charles Gilbert Chaddock.

33. Acute Delirium.—Tomlinson describes cases and discusses the pathology of the condition. He holds in substance that it is due to an exhaustion, only differing in degree and the fact that it is based on intoxication from the normal fatigue conditions. The disintegration in either case, he says, is the result of an excess of activity of the cell.

34. The Insane in Penal Institutions.—Robertson thinks that the earlier recognition of the insane in penal institutions would prevent the turning out on the public of a class of degenerates that are a peril to society. He asks how the recognition of the insane in penitentiaries can be thus made a factor in the diminution of crime, and answers it: (1) By the establishment in every state of separate institutions for the insane and defective who exhibit criminal tendencies, where they can be held in custody until a competent medical tribunal shall determine that they are fit to return to society. (2) By examination by competent alienists, prior to sentence by court, of those accused of crime, the report of the physician to be laid before the court to assist in reaching a proper determination of the case. (3) The appointment on staffs of all penal institutions of competent alienists, whose duty it shall be to recognize and secure the transfer to hospitals of those so markedly defective as to require such treatment. If it is not practicable to appoint an alienist for each institution he suggests that one be appointed in each state whose duty it shall be to visit and inspect the inmates of the penal institutions. The warden or officer in charge of such institutions should keep a careful record of each prisoner known to show any mental peculiarities, and furnish information to the alienist on each visit. We should not attempt in our social organization to make the punishment fit the crime, but should study each prisoner to seek out those who should be treated as defectives apart from those who should be treated according to the old lines in state penitentiaries, or those believed to be susceptible of improvement by means of the more modern treatment afforded by the reformatory.

35. Insanity in Connecticut.—The summary of Burr's article is given as follows:

A study of the histories of 7,637 cases of insanity covering a period of thirty two years may be summarized briefly in the following general observations: 1. The ratio of the insane to the general population is much larger than most statisticians have estimated it to be, but the increase in the proportion of the insane is very much smaller than has been determined heretofore. 2. The foreign element of our community shows much the larger proportion of insane than does the native. The native insane, however, have increased to a considerable extent, but not in the same proportion as the foreign insane. 3. The cities show a much larger percentage of insane than do the counties, but the counties show an increasing proportion of insane in the later years. 4. We have also seen that the large proportion coming from the cities is due to the larger percentage of the foreign element in the city, also that with increase of the foreign element in the country there is an increase in the insane. 5. The Irish show the largest percentage of the insane. The Germans are next in proportion. The native Americans show the least insane to population. In general the middle period (1850-1890) shows the largest proportion of the foreign insane. 6. In proportion to population the Irish lead all other nationalities in the production of insanity. 7. The cities, as a whole, send much larger numbers of foreign insane in proportion to the population than the counties. 8. As compared with the

whole state, Hartford and New Haven have larger proportions of foreign insane than the cities, as a whole, over the counties of the state. 9. Fairfield, Litchfield and Windham counties show the lowest proportion of native insane.

36. Non-Dementing Psychoses.—Dana's article is explained in its title. The patient was one in whom an absolute arrest was observed in the course of a distinctly degenerating insanity, and he considers the report as of value on account of the psychic methods and examinations made at three different periods of time. He thinks they can be applied in other cases where a positive prognosis is desirable. The account is interesting, and it would appear that there had been absolutely no change in the man's condition between the last examination and that of three years previously.

Annals of Gynecology and Pediatrics, Boston.

November.

- 40 The Pathology and Surgical Treatment of Bright's Disease. S. C. Gordon.
- 41 Some Personal Experiences in Abdominal Surgery. Arthur C. Hellinger.
- 42 Two Unique Malformations of the Female Generative Organs: Atresia Uteri; Uterus Dileidiphis with Emery Marvel.
- 43 Calcium, Sodium and Potassium in the Prevention and Treatment of Abscess. Sinclair Tousey.

40. Bright's Disease.—Gordon has studied the surgical treatment of Bright's disease, and concludes that it is primarily an acute inflammation of the kidney structure, not dependent on any specific infective germ. If early recognized and properly treated it will terminate by resolution. But if neglected or not recognized, repeated acute attacks may occur, each one leaving products of the inflammatory process, which may organize or even suppurate. The acute attacks are always short, but leave more or less products which interfere with the circulation, finally producing a chronic passive congestion. The result of these attacks is an enlargement of the organs, causing pressure of the fibrous capsule. Complete decapsulation relieves this pressure, depletes the distended vessels by more or less bleeding, and allows the circulation to resume its normal conditions and absorb the exudate. Even when one kidney alone is involved, operation on that kidney may relieve the symptoms. The surgeon is justified in operating in advanced cases when the suffering is great, simply to relieve this.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

October 31.

- 44 Six Years' Experience with Tuberculosis in the West. Earl S. Bullock.
- 45 The Necessity for an Early Diagnosis in the Prevention of Deformities. Reginald H. Sayre.
- 46 A Case of Stammering Treated by Hypnotism. G. Hudson Makuen.

44. Tuberculosis in the West.—Bullock gives his experience as a health seeker, and as a physician in New Mexico and adjoining regions. He thinks the accommodations in most places are comparatively poor. There are a number of excellent places open to individuals, but they are generally expensive. Everywhere one is impressed with the fact that individuals are doing what they ought not to do for their health. The climate is expected to do everything. One of the first lessons he drew from his experience was that most patients are disappointed for this reason. The majority of patients are past the point when climate could be an aid to them. There are undoubtedly many old chronic cases who live long and useful lives in this western country, and there are a great number of genuine cured cases who illustrate the best results. There are also the climate seekers who go traveling around and vary their residence with every season; he would not send a patient to a place where conditions were only propitious part of the year. He would not send a tuberculous patient to a city in search of health. He criticises the early management of the Government Sanitarium at Fort Bayard, where he served as pathologist for a season. Changes in authorities and so on have been unfavorable to the best management, and a large proportion of the cases are not hopeful at the start. He analyzes the experience there as he observed it, and remarks that while there he was in a position to obtain conclusive evidence that the tuberculin test is not a justifiable procedure in the human being; also that it can not be depended

on as completely demonstrating the presence or absence of a tuberculous process. Of the St. Joseph's Sanatorium at Silver City, N. M., of which he is medical director at the present time, he speaks favorably as regards the climate and facilities. He ends with the conclusion that we are not justified in sending patients with a high grade of mixed infection away from home, certainly not across the continent. It is little short of criminal to send one, even of the most favorable class, into the West either to shift for himself under conditions that may prove inimical to his moral as well as his physical welfare, or to bring poverty on those near him. A climate at which an individual may remain comfortably out of doors all the year through and in which the dryness of the air prevents colds and cures a catarrhal disposition; in which the natural healthfulness prevents intercurrent diseases, and in which the altitude checks a hemorrhagic tendency; this for selected cases with little or no mixed infection is the most favorable environment to be found anywhere in the world.

Detroit Medical Journal.

November.

- 47 *The Surgical Treatment of Exophthalmic Goiter. Max Ballin.
48 The Essential Nature of Reflex Acts and Instincts. A. W. Ives.
49 Eye Clinic at St. Mary's Hospital, Oct. 22, 1903. Eugene Smith.

47. Exophthalmic Goiter.—Ballin holds that exophthalmic goiter is successfully treated by operation in about 75 per cent. of cases, and while the mortality from operations has been high, it is reduced in the hands of a skilled surgeon to about 6.3 per cent. or still lower in cases operated on early. The principal dangers are from the anesthetic, hemorrhage and postoperative thyroidism. They can be avoided by local anesthesia, skilled manipulation and the proper preparation of the patient, as well as early operation. The question whether operations on the thyroid are preferable to sympathectomy can not be decided until we have fuller statistics as to the results of the latter operation.

Annals of Surgery, Philadelphia.

November.

- 50 *The Surgical Problem in Prostatic Hypertrophy. George Waller Hawley.
51 *On the Treatment of Fracture of the Mandible. Stewart L. McCurdy.
52 Traumatic Aneurism of the Left Subclavian Artery Produced by Fracture of the Clavicle. William Taylor.
53 *Report of a Case of Recurrent Dislocation of the Ulnar Nerve Cured by Operation. Farrar Cobb.
54 *One Thousand Abdominal Closures by a New Method Without a Known Hernia. James Fairchild Baldwin.
55 Splenectomy for Banti's Disease. Charles G. Levison.
56 On the Pathology and Classification of Intussusceptions, with a Résumé of Those Arising from the Appendix Ceci. Alfred M. Corner.
57 *The Diagnosis and Treatment of Acute Pancreatitis. George Woolsey.
58 Idiopathic Dilatation of the Colon. R. W. Murray.
59 *A Contribution to the Study of Intestinal Suture, with a New Method of Intestinal Union. J. Shelton Horsley.

50. Prostatic Hypertrophy.—From a general review of the subject the following conclusions are reached by Hawley as regards the problem of prostatic hypertrophy: (1) That it is not the prostate but the adjacent urinary tract that demands relief. (2) That the direct cause of interference with micturition is the displacement of the outlet and floor of the bladder due to enlargement of the retro-urethral portion of the prostate. (3) That until the precise cause of this overgrowth is known and successful preventive measures found we can only hope to relieve by correcting the displacement. (4) That until an effectual method sufficiently safe and simple for application before infection and disorganization of the urinary tract has resulted, surgery can not effectually relieve. (5) That the logical mode of correcting vesico-urethral displacement is by reduction is shown by the fact that operative methods improve urination by virtue of their power to reduce more or less this displacement. (6) While some of these methods partially or sometimes completely accomplish reduction with comparative safety and others entirely reduce the displacement, but at considerable risk, none does so with both safety and success. (7) That since the reduction of the vesico-urethral elevation is essentially a mechanical problem, a reduction based on anatomic and me-

chanical principles would be the safest and simplest. (8) That the method he describes is based on such reasoning and has received satisfactory confirmation by experimental work. Whether it will prove sufficiently safe and effectual in application, clinical results must decide. In his operation above alluded to, the Zuckerkandl bi-ischiol perineal incision was made, exposing the bulb of the urethra and the posterior half of the perineum. The support of the latter was released by dividing the recto-urethral muscle just behind its attachment to the bulb. This enlarged the operative field, allowing the rectum to drop backward. The levators were then divided, still more enlarging the operative field and facilitating exposure, and the prostatic sheath opened under the surface of the prostate from the apex to the base. The sheath on each side was separated from the lateral and under surface of the retro-urethral prostate by the finger (as in prostatectomy). In 2 cases the bladder was opened above, but only to confirm the extent of the reduction of the neck. After freeing the sheath, the prostate was dislocated downward, and in each case the reduction of the elevated neck of the bladder was very plain but insufficient. In each case sections were removed from the outer and lower portion of each lateral lobe, resulting in still greater reduction. In one case where enlargement was almost entirely of the middle lobe with marked upward projection of the bladder floor, the latter disappeared entirely. In each case the reduction seemed complete; the retroprostatic pouch was obliterated and good bladder drainage restored except in one subject where the pouch was large and trabeculated. In each case the urethra, bladder and ejaculatory ducts were uninjured, and enough of the prostate remained untouched to perform its functional purposes in all probability. The steps were easily performed, and the operative damage was slight as compared with prostatectomy with its unavoidable injury of the urethra. The resulting wound was superficial and capable of being made surgically clean. He thinks this method which was tried on cadavers is appropriate in early cases of prostatic hypertrophy before the urinary tract has become infected and disorganized, and while it can be carried out as an aseptic operation.

51. Fracture of the Mandible.—The method here proposed by McCurdy consists in drilling through the mandible from the external surface of the bone into the sublingual cavity, drilling between the apices of the second and third teeth from the lines of fracture, when possible, so as to guarantee a firm anchorage for the wires. After the drill holes are made they are threaded with a notched drill. The wire is passed through from without into the mouth on one side, and with the thread through the drill hole on the other side it is drawn out. The two ends of the wire are now drawn out firmly, and the loop on the inside of the bone is molded to the surface of the mucous membrane. The free ends are twisted so as to bring the ends of the bones in perfect apposition. Then the wire is turned up along the remaining teeth, so that the sharp end may not irritate the mucous membrane of the lip. When one side tends to drop the drill holes should not be made on the same plane. In some instances it will require but one hole, the teeth being used for anchorage. This is usually the case in fractures near the angle. He allows the wires to remain in position for six weeks or longer if union has not taken place, and they cause no irritation or sloughing. If necrosis of the bone ever occurred it was too slight to be noticed in his cases. Bandages, etc., are not required. The patient soon learns to hold the teeth together. If infection occurs he uses the ice cap. The mouth should be cleansed with some strong antiseptic, as borolyptol, every hour or so. Before adjusting the fragments the field should be thoroughly cleansed with a 50 per cent. alcohol solution. Iron wire is used, as tougher, less irritating and superior in every way to silver wire. The feeding in the cases where no tooth is missing is by passing a curved glass tube back of the back teeth into the mouth; a fountain or other syringe can be used to force liquids into the oral cavity. In many cases the patient can suck the liquid from a glass with ease. The bulk of the paper is made up of accounts of cases thus treated.

53. **Dislocation of the Ulnar Nerve.**—From the case here reported and a summary of other cases, Cobb concludes that operation for this condition has every chance of perfecting a cure. Only the severe cases, few in number and generally traumatic, need ever be operated on. The operation is only for the symptoms, not for the dislocation, and only in those cases where symptoms are severe and disabling. The steps of the operation are simple and necessarily the same in all cases.

54. **Abdominal Closures.**—The new method here described by Baldwin consists in exposing the bellies of both recti muscles so that they can be brought into direct apposition when the sutures are tightened. Through-and-through silkworm gut is then introduced from within out, the needle being so introduced as to catch merely the edge of the peritoneum, and passed well back through the muscle and fascia and out at a suitable distance from the skin margin. The fascia is next brought together by an over-and-over stitch, using a double thread of coarse silk or cotton. This is introduced so as to give a loop about two feet long. To the end of this loop is attached a wire which is sharply bent on itself so as to be readily drawn through the tissues, the loop being merely a guide. The over-and-over stitch is so passed as to take in about a quarter of an inch of the edge of the fascia and includes no other tissue. It is introduced very loosely so that each turn can be caught later with the finger. As it reaches the end of the incision it is passed from within out through fat and skin so as to make its exit an inch or more above the end of the incision. By means of this guide thread the wire is introduced loosely so that it lies in the wound as a helix, the end of the wire appearing through the skin as the last of the thread is withdrawn. The fascia should be carefully cleaned of fat. A handled needle with an eye at the point is then introduced through the skin and fat about an inch from the other end of the incision, and brought out just above the fascia so as to engage the other end of the wire which is then withdrawn. This needle has been previously passed through two pads about an inch square, made of six or eight thicknesses of gauze. Before withdrawing the wire from the needle one of these gauze pads is slipped down over the wire so as to rest next the skin. The other end of the wire is then threaded through the needle and the other gauze pad placed in position, and a perforated shot placed outside of each pad. The incision is then carefully dried if there has been any oozing, and while an assistant draws up the ends of the silkworm gut so as to secure apposition of the peritoneum throughout, the wire helix is drawn straight by traction with forceps on each end, care being taken to see that no kinks are formed. The wire should be drawn back and forth once or twice to be sure that there are no kinks. The perforated shot are now pushed down against the pads and clamped. The fascia is thus held in absolute contact. The silkworm gut is then tied as usual, care being taken that it is not drawn too tight, as this is the commonest cause of stitch abscess. If the abdominal wall is enormously thickened from a deposit of fat this method can not be used, since the pressure of the silkworm gut would be too great. In such a case he usually closes the peritoneum, including the transverse fascia, with fine catgut, and the muscle and fascia in two layers with chromicized catgut, No. 1, and then the skin and fat with through-and-through silkworm gut. Gloves are always used in closing an incision in this way. To drain the dead space between the fascia and fat he uses a wick of iodoform gauze, wrapped in gutta-percha tissue, extending from the upper end of the wound through its entire length and brought out at the lower end, introducing it before the silkworm-gut stitches are tightened. Any oozing will be absorbed by this drain which is withdrawn next morning. Where the recti are widely separated, he does not try to bring them together, but takes extra care to bring the fascia together. The line of incision is supported by a many-tailed snug binder of cotton flannel. If the case does well the dressings are not removed until the tenth day. Of course, the bandage can be removed at any time. The dressing is then removed and all the sutures withdrawn. The wire is

easily withdrawn. A bandage is reapplied and the patient directed to wear it day and night for a month except when bathing, wearing it during the day for a second month. It is not necessary to keep it up longer than the total of three months from the operation.

57. **Pancreatitis.**—Woolsey concludes his paper as follows:

1. In the severe acute cases of pancreatitis, the symptom complex, in connection with some predisposing factor or factors and perhaps some other early signs renders it possible to make a probable diagnosis. 2. The conditions which are less acute cases. 3. It is only likely necrosis at the also require early operation. 4. The treatment should consist of early operation, including infusion for collapse, evacuation and drainage. This may be done under local anesthesia. 5. Extensive or prolonged operations are not justifiable.

59. **Intestinal Suture.**—Horsley's method of intestinal suture here described requires the illustrations to fully explain it. It consists in using a suture that passes through the whole of the intestinal walls, sewing together with a continuous overhand stitch a crescentic area excised, then changing the stitch to a Cushing right-angled continuous suture, penetrating all the coats, and inverting the remaining margins of the wound. When the first knot is reached in the suture it is invaginated and the suture continued by two or more insertions of the needle. With these last two insertions of the needle as secure a hold as possible is obtained without penetrating the mucosa. The very last insertion of the needle is in the inverse direction of the other insertions, so that when the knot is tied it is partially buried. After this suturing is completed scarcely any of the thread can be seen, except a portion of the knot, unless the bowel ends are pulled on. The bowel is then turned to its natural position and the mesentery sewed up with a continuous stitch. He claims that his method is efficient, as shown by experiments on dogs. It requires no complicated apparatus or special mechanical device. It can be quickly performed, is easy to learn and hard to forget.

Bulletin of the Johns Hopkins Hospital, Baltimore.

November.

- 60 An Epitome of the History of Carcinoma. Roswell Park.
- 61 Governor John Winthrop, Jr., of Connecticut as a Physician. Walter R. Steiner.
- 62 Pneumococcal Arthritis: Report of Three Cases. Campbell P. Howard.
- 63 *The Plague in India. A Study of the Results of the Haffkine Prophylactic. B. Rosalie Slaughter.

63. **Plague in India.**—The subjects covered by Slaughter in her paper are the special protective action of the Haffkine prophylactic, which is usually given in India in doses of 5 c.c. or even more. She thinks that the larger dose given there is perhaps the reason for its better success than that of the same material put up at the Hygienic Laboratory at Washington, the dose of which is given as 1 c.c. It has been found that it begins its protective action within twenty-four hours. It is not harmful, even in the incubation stage, and we can set aside Calmette's warning against using it in this stage and inoculate all persons whether they have been exposed to plague or not. The plague serum is harmless, from Indian experience, to those incubating the disease. When a person, however, already has severe headache, tenderness in the glandular region, a temperature of 100 F. or over, its usefulness as a prophylactic is past, because plague has already developed. The reasons for the incomplete success of the English efforts to terminate plague in India are mainly because of the comparatively small area out of an immense population that can be treated, and the fact that villagers neglect the hygienic precautions as soon as their fright is over. The constant pilgrimages and changes of residence, moreover, are decidedly against the extirpation of the scourge. The greater activity and virulence of plague germs at a low, moist temperature has been clearly demonstrated in the Indian experience, and it is a fact worth noting that crocodiles and vultures who feed on plague victims are absolutely immune. The struggle against plague in India is carried on under conditions that we will never be obliged to face in America, but in India the efforts of physicians and their assistants have been successful whenever they have been able to handle small bodies of the people systematically, unhampered by native prejudice. A

number of interesting illustrations of the protective effect of the Haffkine inoculation are reported, showing that it renders a person immune for three months and acts within twenty-four hours of its administration. When given in the incubation stage it has in many cases aborted the disease, but has no effect on other diseases except possibly eczema, which appears to be benefited by it. It confers a high degree of immunity and greatly reduces the number of plague attacks. If in spite of it a person is attacked his chances of recovery are greatly increased.

Brooklyn Medical Journal.

November.

- 64 The Twentieth Century Practice of Medicine. John R. Stivers.
- 65 *Fistula in Ano. Walter C. Wood.
- 66 *Head Injuries: Their Diagnosis. Alexander Rae.
- 67 *The Treatment of Hemorrhoids in Injections. Arthur H. Terry.
- 68 A Case of Multiple Lipoma. C. F. Barber.

65. *Fistula in Ano.*—Certain common errors in regard to this disorder are noticed by Wood, such as failure to appreciate the exact pathology of the individual case, the origin of the abscesses, the superficial or the deep nature of the disorder, etc. Tegumentary abscesses are comparatively unimportant, but the subtegumentary inflammations cause a special type of fistula. They are generally lymphatic infections and open externally or just above the mucocutaneous junction and not into the rectum proper. They seldom follow a straight line and are not easily followed with the ordinary probe. He takes exception to the statement of Mathews that it is of slight importance to determine the internal opening of these and other fistulas. Wood remarks that when he finds the internal opening he cures the fistula, and when he does not he sometimes fails. A remnant of the diseased tract continues the infection. In some tubercular cases office treatment may be successful, using cocain and peroxid of hydrogen and following the tract up to its termination, but if the operation is done under anesthesia a much more certain and rapid cure can be obtained by dissecting out the fistula than by incising it. He emphasizes the value of Salmon's back-cut. It is on the same theory that we incise the edge of a chronic ulcer to permit healthy granulations to arise through the indurated tissue. While he favors excision instead of incision in subtegumentary fistulas, in deep cases he thinks the old method of incision is preferable. Such a fistula is more branched than the superficial, and to excise all the ramifications would be a formidable procedure. In doing an ordinary operation, unless it is very evident that the tract is straight, it is better to cut from above downward, making sure that the exact and entire course of the fistula is laid open, rather than by the quicker method of the older authorities. Incontinence following operation is an important matter. If both sphincters are cut once across at right angles, it is safe, but the exact direction of these fibers must be considered for the anal sphincters are not circular but elliptical. It is therefore sometimes necessary to make an incision from the external opening parallel to the fibers until such a point is reached that a line from it to the internal opening will cross the sphincter fibers at a right angle. When required, there is safety in cutting the external sphincter more than once, provided the internal one does not share in the double injury. The after-treatment is important. If we leave the care of the case to one who will use only superficial applications we may expect a large percentage of failures. At least twice a week the bottom of the wound must be examined in a good light, pockets be broken up and exuberant granulations cut down with iodine, chlorid of zinc, etc. He thinks after the first week these cases do better with fresh air and moderate exercise than if confined to the bed. As regards tuberculosis and fistula he is more hopeful than many. There is the possibility of fistula with phthisis as well as tubercular fistula. Phthisis is a less frequent accompaniment than is often supposed. Less than 10 per cent. of the 139 cases of fistula at the Mount Sinai Hospital in four years had phthisis. In cases of true tubercular fistula he thinks general surgery holds rather than any special rule. If the patient's general condition warrants operation he would not hesitate to operate any more than he would

with hemorrhoids, and he considers local anesthesia best. Any fistula that can be excised without too formidable a procedure had best be so treated. If incision seems best it is wise to do it with a cautery instead of with a knife, and thus destroy the organisms and avoid infection.

66. *Head Injuries.*—Rae insists that the presence or absence of infection determines the outcome in these cases. The soft parts can be readily examined. In injury to the bones of the cranium, change of contour can be determined, but the possibility of fracture of either or both tables without change of contour must be borne in mind. Closed injuries may have to be converted into open ones to determine the exact condition, and the escape of cerebral tissue and cerebrospinal fluid means fracture of the base. Hemorrhage from the ear or nose should be interpreted with care, although the probability of fracture is great. The symptoms of injury to the brain are the diffuse lesions of concussion and compression; the former marked by a brief period of unconsciousness, the latter by a recurrent or continuous period of insensibility. The appearance of localized loss of function or symptoms of irritation means a local lesion and points to the seat of it according to our ideas of localization. If depressed bone causing pressure be the cause of the loss of function, the function will be restored on elevating the bone. If this does not restore it, the fact of concussion to the brain is emphasized. Considerable damage to the brain tissue, however, can exist without any local symptoms.

67. *Hemorrhoids.*—Terry has used injections in some of his cases with success. He advises the following prescription for the injections, quoting from an unnamed medical journal: "Rub together 1 dram of salicylic acid and 1.5 drams of glycerin, add 2 drams of carbolic acid. To this add 1 dram of borax and 1.5 drams of glycerin. Let stand until clear, and inject 3 to 5 drops into small piles and 5 to 8 into large ones." This injection should be repeated every ten days, and he has used it exclusively in appropriate cases. He remarks on the harshness of treatment of hemorrhoids sometimes by the introduction of the speculum, etc., and the advantages that quacks gain by their easier methods. Four cases are reported. He does not know that there is any special advantage in the prescription he has employed, though it has been satisfactory to him. He has never used more than 2 minims at any one point, but often injects several points at one visit. He has never seen any sloughing, and only rarely any painful inflammation. He thinks the injection method has a certain utility for patients who will not submit to the knife. The chief danger lies in attempts to make the injections compete with operative surgery in range of application and in promptness of results.

Atlanta Journal-Record of Medicine.

November.

- 69 A Plea for the Microscopic Examination of the Blood in the Continued and Remittent Fevers Common to Our Southern States. Louis M. Warfield.
- 70 *Some Remarks on Diagnosis and Treatment of Venereal Ulcers. W. B. Emery.
- 71 *Report of 150 Cases Receiving the Pasteur Treatment at the Georgia Pasteur Institute. James N. Brawner.

70. *Venereal Ulcers.*—Emery describes the method of diagnosis of chancre, chaneroid, abrasions, etc., and his methods of treatment. Simple ulcers require only protection and cleanliness. In herpes and ulcerated balanitis he insists on circumcision, thus removing the cause in most cases. For chaneroids he employs carbolic and nitric acid. Swab the surface of the ulcer with pure carbolic acid for the anesthetic effect; then apply nitric acid with a cotton swab. A 40 per cent. formalin solution has been suggested, but he has never tried it. After thoroughly applying the nitric acid he uses a moist dressing of absorbent cotton saturated with bichlorid, 1 to 10,000. This serves to protect the ulcer and absorbs the secretion. Powders are mechanical irritants. He only uses them when the ulcer is very large, irritable and painful. Then he uses the formula of orthoform one part and bismuth subnitrate three parts; this secures almost perfect local anesthesia for twenty-four hours. He has discarded all ointments, except mercurial, and this only in certain cases to stimulate resolution and check phagedena. In many of these cases potassium iodid or

proto-iodid of mercury are useful. For chancre he would use nothing but a 1 to 5,000 bichlorid bath and a moist protective dressing. As regards the diagnosis of chancre he favors waiting until secondary symptoms appear, giving a placebo if necessary and postponing specific treatment until the diagnosis is certain.

71. The Pasteur Treatment.—Of the 150 cases treated there has been only one failure, that of an old man, who was bitten severely in the eye, through the nose. Another patient, a small negro boy, developed the disease on the tenth day after commencing treatment and died five days after the symptoms first developed, before immunity could have been established, and the case can not be regarded as a failure. Two patients came after the symptoms had fully developed, and, of course, succumbed. During the last year Brawner treated 36 cases from Georgia; none of them developed hydrophobia. During the same period about 20 were bitten who did not take the treatment, and 4 deaths have already occurred among them. Out of 250 southern cases of mad-dog bite of which he has the record, 170 were treated by the Pasteur method with only one death—that above reported. Of the remaining 80, 16 have succumbed to rabies, or about 20 per cent.

Medical Age, Detroit.

November 10.

- 72 The Modern Treatment of Epilepsy. William F. Waugh.
- 73 The Significance of Eye Symptoms to the General Practitioner. E. H. Porter.

American Practitioner and News, Louisville, Ky.

September 15.

- 75 Management of the Third Stage of Labor and the Proper Care of the Mother and Baby for the Next Few Succeeding days. Hugh D. Rodman.
- 76 Surgical Aspects of Typhoid Fever. A. D. Willmoth.
- 77 Medicine and Surgery in the Philippines. Walter D. Webb.

Virginia Medical Semi-Monthly, Richmond.

November 13.

- 78 The Therapeutic Uses of the X-rays with Report of Cases. Ennion G. Williams.
- 79 Secondary Enlargement of the Prostate. William L. Peple.
- 80 The Accurate Estimation of Pulse Tension. Henry W. Cook.
- 81 Rheumatism in Children. J. P. Williams.
- 82 Case of Fracture of the Skull in an Infant Four Months Old; Operation; Recovery. Israel Brown.
- 82½ Sloughing and Discharge by Bowel of 32 Inches of Colon. J. M. Shackelford.
- 83 Case of Morphoea. A. F. Finch.

California State Journal of Medicine, San Francisco.

November.

- 84 Tuberculous Infection of the Peritoneum and Adnexa. Andrew S. Lobingier.
- 85 The Correction of Refractive Errors. W. S. Fowler.
- 86 Nature and Treatment of Obesity or Corpulence of the Middle-aged. A. W. Perry.
- 87 The Common Rat; with Some Suggestions as to the Best Methods for Its Destruction. Donald H. Currie.
- 88 The Practical Value of the State Medical Law. W. W. Cross.

Illinois Medical Journal, Springfield.

November.

- 89 Anemia Infantum Pseudoleukemica. Maximilian Herzog.
- 90 Tuberculosis of the Vestibule of the External Genitals in Women. J. H. Stealy.
- 91 Treatment and Cause of Death in Placenta Previa. P. M. Burke.
- 92 The Secondary Results of Cardiac Disease. John A. Robison.
- 93 Cockroaches as Conveyors of Typhoid Infection. Rosa Engelmann.
- 94 The Dangers of an Exclusive Milk Diet in Nephritis. Alfred C. Croftan.
- 95 Breast Versus Bottle in Infant Feeding. Alfred C. Cotton.
- 96 Hereditary Tendency to Refractive Errors in a Family. Mortimer Frank.
- 97 Treatment of Typhoid Fever. William F. Waugh.

93.—This article appeared elsewhere. See THE JOURNAL of July 11, p. 133, 44.

94.—Ibid., abstract 43, p. 133.

Chicago Medical Recorder.

November 15.

- 98 Adiposis Dolorosa—Dercum's Disease. Frank Billings.
- 99 Nephrotomy, Nephrectomy, Ureterectomy, Double Epididymectomy and Orchidectomy for Tuberculosis. Alex. Hugh Ferguson.
- 100 Obstetrical Emergencies. C. E. Paddock.
- 101 Interesting Cases (Congenital Dislocation of Hip, etc.). Rosa Engelmann.
- 102 The Relations Between Peritoneal Adhesions and the Functioning Uterus. Charles B. Reed.
- 103 The Student Physician in Vienna. Julius Grinker.
- 104 Cambridge Springs, Pa.

Occidental Medical Times, San Francisco.

November.

- 105 The Care of the Eyes During School Life. J. R. Walker.
- 106 Membranous Dysmenorrhea. H. B. A. Kugeler.
- 107 A Diphtheria Epidemic. J. L. McClelland.
- 108 Ilyoscin Hydrobromate as a Specific for the Cure of the Morphine and Whisky Habit, with Report of Cases. R. E. Berling.
- 109 Practical Value of the State Medical Law. W. W. Cross.
- 110 Uric Acid in Its Relation to Bodily Aliments or Disease. W. E. Lilley.

The Post-Graduate, New York.

November.

- 111 The Syphilitic Affections of the Heart and Aorta. Leonard Weber.
- 112 Regeneration and Inflammation. Robert Langerhans.
- 113 The Management of Exacerbations in the Course of Pulmonary Tuberculosis. John F. Russell.
- 114 Adeno-carcinoma of the Liver in Childhood. Stephen S. Burt.
- 115 Notes from the Clinics. Wendell C. Phillips.

Vermont Medical Monthly, Burlington.

August 25.

- 116 Adiposis Dolorosa (Dercum), with the Report of a Case. H. C. Gordinier.
- 117 Two Cases of Normal Pregnancy Following Operations for Extrauterine Pregnancy. Francis D. Donoghue.
- 118 Later Observations on the Treatment of Rheumatism. W. C. Barnes.
- 119 Cough in Pulmonary Phthisis. J. Leffingwell Hatch.

New England Medical Monthly, Danbury, Conn.

November.

- 120 Emergency Character of Railway Surgery and the Extent of Local Disorganization Resulting from Injury. Thomas H. Manley.
- 121 Surgical Infections and Collargolum. Paul Coudray.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 14.

- 1 *The Conditions that Simulate Pernicious Anemia. Thomas Houston.
- 2 *Note on the Bodies Recently Described by Leishman and Donovan. R. Ross.
- 3 Filariasis in Man Cured by Removal of the Adult Worms in an Operation for Lymph Scrotum. A. Primrose.
- 4 *Bubonic Plague ("Kaumpull") in Central East Africa. Cuthbert Christy.
- 5 A Note on the Differential Leucocyte Count in Worm Infections. A. E. Boycott.
- 6 The Etiology of Beri-beri. W. Gilmore Ellis.
- 7 The Physical Factors in Phototherapy. J. E. Barnard and H. de R. Morgan.
- 8 A Case of Double Gangrene of Legs Following a Mild Attack of Enteric Fever. A. Dodds.

1. Pernicious Anemia.—Houston reports a case of malignant disease in which the blood findings and symptoms were characteristic of pernicious anemia, but a partial autopsy revealed a general malignant disease of the viscera and involvement of the bone marrow. The special points in the case which deserve attention were the condition of the blood and of the bone marrow. The red cells were greatly diminished in number and ran as low as one million per cubic centimeter, showing a marked poikilocytosis, and many of them were of large size (megalocytes). The blood was megaloblastic in type. The red cells showed signs of degeneration. The color index was always high, increasing during observation, and the number of leucocytes was about, or slightly under, the normal. He has been able to find the account of but one similar case. His experience in other cases affords no justification of the attempt that has been made to show that it is impossible to differentiate between the anemias of the pernicious type and grave secondary anemias. He tabulates a large number of cases in which hemoglobin was below 50 per cent. In nearly all it was possible to differentiate between the secondary anemias and the pernicious anemias by the lower color index and generally by the absence of megaloblasts, the one case which he details standing out as an exception. The contention of Stockman, therefore, that pernicious anemia is always the result of repeated small hemorrhages is not supported. Houston notices other conditions which have been described by some as liable to be confused with pernicious anemia, such as changes in the blood in ankylostomiasis, pregnancy, cancer, etc., and points out the differences that exist. The case reported, he thinks, has an

important bearing on the question as to the pathology of progressive pernicious anemia, for by inference we are forced to conclude that the changes found in the bone marrow in cases of progressive pernicious anemia are generally the result of disease directly accounting for the condition of the blood and not secondarily the result of the anemia itself.

2. **Leishman and Donovan's Bodies.**—Leishman and Donovan recently reported finding small oval bodies in the spleen in cases of low fever, chronic dysentery and cachexia, and in July Donovan also found similar ones in chronic malaria. Ross has investigated these forms, studying the type specimens of Donovan, and finds that it is hardly possible to doubt that these are parasites of some kind, probably protozoan, and that we have to do with some novel organism in these findings, and it promises to be a common and important one. The fever charts of Donovan's cases recall the chronic pyrexia with enlarged spleen frequently observed in India, and are not a little suggestive of kala-azar.

4. **Bubonic Plague in Central East Africa.**—The disease known among the natives as kaumpuli which from time to time has decimated the population of Uganda, East Africa, is defined by Christy as bubonic plague, and seems to have been known to the natives for ages, but for the first account of the disease we are indebted to Koch, who, with Zupitza, a German physician, proved it to be genuine bubonic plague. Christy has investigated the matter further, talking with missionaries and others who have observed it, and confirms Koch's original opinion.

The Lancet, London.

November 14.

- 9 The History of Medicine as Illustrated in English Literature. Norman Moore.
- 10 *Occupation as a Cause of Lung Disease. Thomas Oliver.
- 11 *The Operative Treatment of Tuberculous Glands of the Neck. W. Greenwood Sutcliffe.
- 12 The Successful Treatment of a Few Cases of Lupus. C. Stanser Bowker.
- 13 On Suppuration of the Bursa Over the Trochanter Major and Its Occasional Imitation of Hip Disease. T. Pridgin Teale.
- 14 A Group of Cancer Cases. W. Gifford Nash.
- 15 A Case of Lupus of the Forehead, the Right Arm and the Elbow Treated by Excision. Cecil H. Leaf.
- 16 A Case of Congenital Heart Lesion. Walter Broadbent.

10. **Occupation Diseases of the Lungs.**—Oliver's lecture reviews these diseases, especially the dust disorders, such as pneumoconiosis (which has been specially observed in French millstone builders and basic slag workers) and ganister-, coal- and gold miners' phthisis. The latter form has been studied in South Africa, and indicates the necessity of hygienic regulations such as have made coal mining in Great Britain a comparatively healthful industry. Metallic trades, such as file cutting and potters' asthma, which seems to be a serious disorder, are also discussed, as well as the dangers from inhalation of gases. In conclusion, Oliver notices the pathology of pneumoconiosis which often leads to fibrosis from which later destructive conditions and secondary infections may arise. It is not always easy to see whether the mischief is due to the direct action of the dust itself or to superadded infection.

11. **Tuberculous Glands.**—The operation for tuberculous glands of the neck is described by Sutcliffe, who insists on the importance of avoiding the internal jugular vein and the spinal accessory nerve. He holds that if operation is decided on, the glands should always be removed with their surrounding cellular tissue, and that instead of tying the internal jugular as a routine measure it should be avoided. The drooping of the shoulders caused by division of the spinal accessory nerve is a serious deformity and causes considerable loss of power, and in children is the cause of almost certain lateral curvature. He has seen many old cases where the sternomastoid and trapezius have atrophied, which served as an object lesson to him not only to treat the nerve with the greatest respect, but to put the incision in the least visible region.

Journal of Tropical Medicine, London.

November 2.

- 17 Note on "Mansonella" Anopheloides. G. M. Giles.
- 18 *A Rare Cerebral Complication in Malaria. P. A. Nightingale.
- 19 Municipal Sewerage. (Continued.) Fred Smith.

18. **Malaria Embolism.**—Though malarial embolisms are not uncommon during the paroxysm of fever, they usually prove fatal, as Nightingale says, from their lodging in some capillaries of the more important cerebral nerve centers. In the case he reports, however, there was simply paralysis of the velum, with some paresis of the vocal cords, followed by slow recovery, as the result of this accident. The patient was an army officer, 32 years of age, who was on the way home from Sierra Leone, the embolism occurring after some days at sea. He thinks, considering the favorable conditions surrounding the patient, that the occurrence indicated a special susceptibility on his part to cerebral embolism; therefore, the question of the safety of a return to a malarial climate for at least some time ought to be seriously considered.

Bulletin de l'Académie de Médecine, Paris.

- 20 (LXVII. No. 34.) *Potable Water for Garrisons. Committee Report.—Sur l'alimentation des garnisons en eau potable.
- 21 *Gastrotomie pour l'extraction de 25 corps étrangers, dont 8 cuillères à café et 1 fourchette. Guérison. Monnier.
- 22 *De la dégénérescence maligne du molignon cervical après l'hystérectomie subtotale pour fibrome. L. G. Richelot.
- 23 *De l'ulcère externe de l'estomac. G. Hayem.

20. **Potable Water for Garrisons.**—The committee emphasize the necessity for the protection of the sources of the water supply. When this can be done efficiently it is unnecessary to resort to sterilization of the drinking water, except possibly temporarily in case of accident.

21. **Gastrotomy for 25 Foreign Bodies in Stomach.**—Eight teaspoons were included among the foreign bodies taken from the stomach of a would-be suicide. Recovery was rapid. Monod, in describing the case, stated that it was the seventy-eighth on record of gastrotomy for a foreign body. In 17 the latter had been multiple. The tolerance of the stomach has always been extraordinary. In 2 cases the foreign body had perforated into the peritoneal cavity without inducing inflammation. The interval before operation was from a few hours to six months in more than half of the cases, and from one to sixteen years in the remainder, with only 2 deaths in this series, a total mortality of 9. Hair balls were found in 9 of the cases. In the case described in detail radioscopy had been negative, and although some of the foreign bodies had been in the stomach for nearly six months, there were no gastric symptoms. The existence of multiple intestinal symptoms and crepitation in the left hypochondrium led to the erroneous diagnosis that the assumed foreign body had passed into the intestines and the operation was commenced at this point.

22. **Malignant Degeneration of Stump of Cervix.**—Richelot has observed 3 instances in which the stump of the cervix left after subtotal hysterectomy had become affected with malignant disease. He knows of 3 other cases, and has found 10 more in the literature. The hysterectomy had been undertaken on account of fibroma in the majority of cases. Hyperplasia of the uterine glands shows a tendency to epithelial malignant proliferation, and this hyperplasia of the glands is an invariable accompaniment of uterine fibromata. He therefore urges total instead of subtotal hysterectomy, whenever possible, and proclaims that fibromatous degeneration should no longer be regarded as a benign process. He admits that a fibroma is a benign tumor, but it is the manifestation of a nutritional disturbance affecting the parenchyma of the uterus and likewise its mucosa, the latter preparing the soil for malignant degeneration later. Besides this, there is always the possibility of phlebitis and complications on the part of the viscera. The general hypertrophy which accompanies fibromatosis is liable to degenerate into epithelioma, either of the fundus or of the stump left after a partial operation.

23. **External Ulcer of the Stomach.**—Hayem describes a lesion on the outer surface of the stomach which he thinks has hitherto escaped attention. It resembles a round ulcer, only that it faces outward and leaves the mucosa of the stomach intact. It may be called an external ulcer, gastric mal perforans or a mixed internal aneurism. In its course it passes through three phases, first resembling a vaccine pustule, then a kind of sac, and finally, a cupola projecting around a defect in-

volving all the layers of the stomach wall down to the mucosa. He has observed it in 3 cases, and always coexisting with chronic ulcers on the inner surface of the organ. This coincidence seems to demonstrate that it is due to the same causal pathologic process, and that abnormal gastric juice can not be the principal factor in the evolution of an ulcer in the stomach wall. The facts observed incriminate nervous influences as more probably responsible for the lesions than any cause inside the organ.

Presse Médicale, Paris.

- 24 (II, No. 88.) Au congrès national contre l'alcoolisme. 26-29 Octobre, 1903. Le rôle du médecin. H. Triboulet.
25 Les conditions habituelles de l'intoxication belladonnaïque. A. Marthelet.

Archiv f. path. Anatomie, etc. (Virchow's), Berlin.

Last indexed page 938.

- 26 (CLXXIII, No. 3.) Zur Lehre von den Oesophagus-Divertikeln, mit bes. Berücksichtigung ihrer Anatomie und ihrer Pathogenese. G. Riebold (Dresden).
27 Changes in Spinal Ganglion Cells After Division of Peripheral Nerves and Posterior Roots. K. Kleist.—Die Veränderungen der Spinalganglienzellen nach der Durchschneidung des periph. Nerven und der hinteren Wurzel.
28 Die morphologischen und funktionellen Veränderungen nekrobiotischer Blut-Zellen. K. Dodon.
29 Lienale Leukämie bei einem 5 Wochen alten Kalbe (in calf). D. A. de Jong.
30 *Behavior of Suprarenals in Inherited Syphilis. N. Guleke (Berlin).—Zur Frage des Verhaltens der Nebennieren bei congenitaler Syphilis.
31 Zur Kenntnis des Myeloms. S. Saltikow (Basle).
32 Struma ovarii colloidis. R. Meyer.
33 Case of Rupture of Gall Bladder. B. Huguenin (Geneva).—Fall von Gallenblaseruptur mit tödlicher Blutung infolge eines Carcinoma hematoides an der Vereinigungsstelle der 3 Hauptgallengänge, nebst Bemerkungen über eulige gleichzeitige Leber- und Pankreas-Veränderungen.
34 Fall von Agnesie der Milz (of spleen). C. Sternberg.
35 History of Recurrence of Smallpox. W. Ebstein.—Zur Geschichte der Rezidive bei den Pocken.

30. Suprarenals in Inherited Syphilis.—Guleke has noticed in 3 out of 8 cadavers of newly born syphilitic infants that the suprarenals exhibited peculiar wedge-shaped or oval foci of necrosis. He found nothing of the kind in 15 non-syphilitic infant cadavers. He relates the particulars of one case. The infant of a prostitute had succumbed two days after birth, and the necropsy showed gummatous hepatitis, interstitial splenitis and intense osteochondritis. In the cortical substance of the suprarenals miliary gummata were numerous, accompanied by interstitial fibrous induration and the necrotic foci mentioned above.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 531.

- 36 (VII, No. 3.) *Indications for Forceps Operations. H. Fehling (Strasbourg).—Ueber die Anzeigen für die Zangenoperation.
37 Case of Cleft Pelvis. M. Muret.—Fall von Spaltbecken.
38 *Abnormal Site of (Strasbourg).—Ueber fehlerhaften Sitz der Analogen zwischen Placenta pueri und Peritonitis. Placenta.
39 *Recovery from Tuberculous Peritonitis. H. W. Freund.—Zur Heilung der tuberkulösen Bauchfellentzündung.
40 *Studien zur Bakteriologie des Genital-Kanals in der Schwangerschaft und im Wochenbette. M. Stolz.
41 *Zur Diagnose und Therapie der Genital- und Peritoneal-Tuberkulose des Weibes. H. Pape (Giessen).
42 Stiel-Torsion bei Hydrosalpinx. A. Funke (Strasbourg).
43 Historical Sketch of the Lying-in Rooms in Previous Centuries. R. Müllerheim.—Zur Kulturgeschichte der Wochens Stuben vergangener Jahrhunderte.

36. Indications for Forceps Operation.—Fehling thinks that injury of the soft parts would not occur if students were trained in forceps operations and repair of injuries by careful suture under the eye of the professor. He adds that no "practicant" is allowed to leave his clinic without having sutured a perineum once or several times. He thinks that there is nothing to prove that the application of forceps leads to hemorrhage from atony. Hemorrhage from lacerations can be easily controlled. Slight lacerations of the cervix occur in nearly every normal birth, and Emmet's operation is usually superfluous. He states that in 815 forceps operations he has held the forceps himself in only 10, and thinks that by thus entrusting them to the assistants he has done more for the education of his pupils than if he had denounced and banished forceps from his practice. He regards feeble contractions as an indication for their use and advocates resorting to them when all the conditions are favorable and the delivery stage lasts more than three hours.

38. Abnormal Site of the After-birth.—Bayer calls attention anew to the fact that the cervix does not behave the same in all pregnancies. In some it develops by unfolding irregularly, and the physiologic stricture becomes spastic in labor accompanied by spasmodic contractions. The after-birth in placenta previa is inserted in the lower pole of the uterus but not in a correctly regular segment, and hence it develops abnormally. A woman who has had considerable hemorrhage during the pregnancy but who arrives at term without much loss of strength stands a better chance of recovery with a living child, from the placenta previa, than one whose labor commences at term without any hemorrhage during the pregnancy. The same conditions prevail when the placenta is located in the tubal angle. The uterus forms a "tubal segment," as the walls of the tube expand under the placenta. In case of placenta previa it becomes more or less detached and hemorrhages occur, simulating the phenomena of premature detachment of a normally located placenta. The various conditions are shown in cuts. With a placenta located in the tubal angle the uterus becomes saddle-shaped. No special treatment is required for it, except that the possibility of a pathologic process must be borne in mind.

39. Healing of Tuberculous Peritonitis.—Freund describes several cases to show the phases of the healing process in case of tuberculous serous or ulcerative, suppurative peritonitis or peritonitis with adhesions. Each of these three varieties is amenable to operative treatment. This relieves the abdomen of the presence of the effusion, with or without its specific disease germs, and the intervention is followed by proliferation of connective tissue which destroys or encapsulates the morbid products. Mild cases may be treated conservatively, but severe ones require surgical aid. Freund describes 15 cases which emphasize the remarkable benefits derived. In some the cure has persisted for years. Concomitant tuberculous lesions in pleura or lungs healed with the healing peritoneum. Experiences of many surgeons to date show that 65 per cent. have been cured by operative intervention, and 25 per cent. permanently for years to date.

40. Bacteriology of Genital Canal in Pregnancy and Parturition.—Stolz does not regard the presence of bacteria in the uterus as necessarily entailing infection. He thinks that this follows only when the germs are extremely virulent and very numerous.

41. Tuberculosis of Female Genitalia and Peritoneum.—Pape advocates excision of tuberculous lesions in the portio and cervix, but not in isolated tuberculosis in the endometrium until after the ordinary measures have been tried and failed, such as abrasio, injection of iodine and general treatment. In recent cases of general genital tuberculosis radical operations are indicated, but in the chronic cases only symptomatic treatment.

Berliner Klinische Wochenschrift.

Last indexed page 1371.

- 44 (No. 39.) Modification of Chemical Property by Partial Decomposition of Albumin in the Body. F. Umber.—Ueber Abänderung chemischer Eigenart durch partiellen Eiweißabbau im Körper.
45 *Weitere experimentelle Untersuchungen über Alopezie und die Lokalisation von Hautkrankheiten. A. Buschke.
46 *Value of Soxhlet's Sugar Food in Infant Therapeutics. H. Brüning (Leipsic).—Ueber die Verwertbarkeit des S. Nährzuckers in der Säuglings-Therapie.
47 *Zur Klinik der Tumoren der Hypophysis. H. Rosenhaupt.
48 Sociologic Study of Venereal Diseases. E. Saalfeld.—Zur sozialen Fürsorge für Geschlechtskranke.
49 (No. 40.) *Immediate and Permanent Action of Heat and Light Rays on Cutaneous Temperature. F. Sommer.—Ueber die unmittelbare und Dauerwirkung der Licht- und Wärmestrahlung auf die Hauttemperatur.
50 *Experimental Research with Subcutaneous Feeding with Nutrient Solutions of Albumin. Trolländer (Dresden).—Tierversuche über subkutane Ernährung mit eiweißhaltigen Nährlösungen.
51 *Ueber orthotische Albuminurie. O. Jacobson (Berlin).
52 Sun and Air Baths. E. Singer.—Ueber den Einfluss von Luft- und Sonnenbädern auf den menschlichen Körper.
53 (No. 41.) Radioscopy of Bone Sarcomata. Lessing.—Knochensarkome im Röntgenbild.
54 *Ueber Cardiotopse und ihren Zusammenhang mit Hepatopse. M. Einhorn (New York).
55 *Zur Lehre vom Magensaftfluss (gastrosuccorrea). A. Albu (Berlin).
56 Urtikaria nach endonasalen Anwendung von Nebennieren-extract). A. Rosenberg.
57 *Ue... der Angina mit akuter Thyreoiditis.

- 58 *Paralysis of Accessorius in Tabes. W. Seiffer (Berlin).—Die Akzessoriuslähmungen bei Tabes dorsalis. (Commenced in No. 40.)
- 59 (No. 42.) Versuche über die Theocin-Diurese am gesunden Menschen. H. Dreser.
- 60 *Displacements of Liver and Thoracic Organs from Meteorism. A. Oppenheim.—Die Lageveränderungen der Leber und Brustorgane bei Meteorismus, ihre Verwertung für Diagnose und Therapie.

45. Alopecia from the Use of Thallium.—Buschke's further experiments have established that the alopecia has nothing to do with the decrease in the secretion of sweat which thallium induces. Also that the alopecia is due to a specific medicinal action on the part of the drug, and that this action can not be diverted elsewhere by producing a superficial lesion at another point.

46. Soxhlet's Sugar Food in Infant Therapeutics.—Brüning states that his experience with this substance, added to the milk, has been extremely favorable in the case of 37 infants, some of them very sick. Even those with severe gastrointestinal trouble gained in weight as well as the others on this diet.

47. Symptomatology of Tumors of Hypophysis.—At the necropsy of a woman 39 years old a sarcoma of the thyroid gland was found and also one in the hypophysis. The symptoms were great thirst, fever and polyuria, with spasmodic sneezing. Rosenhaupt gives further particulars of the case and reviews the symptomatology of such tumors in detail. The fever paralleling the polyuria suggested a central process, as also a suspicion of choked disc. Death followed in six weeks after the first symptoms.

49. Influence of Heat and Light Rays on Cutaneous Temperature. The action of blue, yellow and green incandescent electric light was studied in this research. Under the influence of the light the part gradually becomes warmer. This direct action of the rays is most marked with the short-wave rays. After two to four hours the radiated side is colder than the other, which fact Sommer explains as due to a reactive rise in the temperature on the other side.

50. Albumin for Subcutaneous Feeding.—Trolldenier reports experiments on dogs and 2 clinical cases, in which nutrient injections of a 10 per cent. solution of albumin were applied. None of the albumin appeared in the urine, and he consequently assumes that it was assimilated in the organism. The amount that can be thus given is very small, and the points of the injections were liable to suppurate or at least show a painful tumefaction. He used a manufactured product, midway between genuine albumin and albumose.

51. Orthostatic Albuminuria.—Jacobson accepts this form of albuminuria as an indication of degeneracy. He applies the term only to those cases in which the albuminuria ceases after a day's rest in bed, and there is no albumin in the night urine. The proportion of albumin is not dependent on the specific gravity. He considers the albuminuria of puberty as its prototype, both a token of exceptional susceptibility to fatigue.

54. Cardioposis and Its Connection with Hepatoposis.—Einhorn's communication is based on examination of 926 persons. He found in 22 pronounced cardioposis, all but 4 being men. In about half of these cases there was concomitant hepatoposis, probably owing to the downward displacement of the diaphragm. Treatment should be addressed to the general nervous system, with avoidance of positions bending the trunk forward, and of high pillows at night. Drugs are of little if any use, but a mechanical support might be tried, a pad in the corset, for instance.

55. Gastrosuccorhea.—Albu regards the presence of gastric juice in the fasting stomach as pathologic in every instance. He distinguishes between chronic and intermittent gastrosuccorhea, ascribing the latter to incipient tabes in most cases. It usually begins suddenly, with violent pains and vomiting of gastric juice, and the affection then subsides, sometimes for months at a time. Chronic gastrosuccorhea is usually found in neurasthenic subjects and in cases of atony, ectasia or ulcer, and is always preceded by some motor disturbance. Corresponding to these fundamental affections the secretion may be hyperacid or not, and the dilution of the juice

may mask its acidity. The secretion of urine and of gastric juice are usually in inverse relation to each other.

57. Complication of Angina with Acute Thyroiditis.—Kubinski's 4 patients were women, and the sudden onset of the thyroiditis convinced him that the angina was due to rheumatism. Instead of localizing in the joints the affection settled in the thyroid gland. The course was febrile, but there was no suppuration and recovery was complete in 2 to 8 weeks. The pulse was accelerated in each case. He found applications of ice the most effectual treatment. In one case recurrence of the angina six months later was accompanied by recurrence of the thyroiditis.

58. Paralysis of the Accessorius in Tabes.—Seiffer has encountered 3 cases of this paralysis among 400 tabetic subjects, and has found 6 recorded in the literature. He describes and illustrates his cases, adding that the tabic neuritis is generally a peripheral or root affection, probably at the point where the root fibers of the vagus and accessorius mingle, as the symptoms of paralysis of the latter are accompanied by others indicating involvement of the vagus.

60. Diagnostic Import of Displacement of the Liver, Etc., by Meteorism.—Oppenheim states that when the liver is pushed up by meteorism below it turns on its frontal axis upward and backward and the dullness vanishes. The disappearance of dullness may therefore indicate the first phase of pronounced meteorism not otherwise revealed. It may prove an early sign of progressive peritonitis originating from appendicitis, long before the pulse shows anything wrong. Opium may induce meteorism in the large intestine. The above displacement of the liver does not occur when the entire mass of the intestines is distended, and may thus differentiate the part of the intestine affected. Artificially produced experimental distension of the intestines, even of the rectum alone, is liable to arrest the heart-beat by mechanical action. This effect is still more marked in man on account of the unyielding nature of the walls of the thorax. Relief may be obtained from a fistula opening into the small intestine better than from one in the less elastic large intestine. The displacement of the liver also pushes up the lung.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed page 1375.

- 61 (LXXVII, No. 5-6.) *Exophthalmus und Hirndruck (brain pressure). G. Flatau (Quincke's clinic, Kiel).
- 62 Healing Processes in Nephritis. C. Thorel (Nuremberg).—Pathologisch-anat. Beobachtungen über Heilungsvorgänge bei Nephritis.
- 63 Metabolism in Chronic Leukemia. J. Schmid (Breslau).—Zum Stoffwechsel bei der chronischen Leukämie.
- 64 Zur Frage der Ammoniakausscheidung im menschlichen Urin. A. Schittenhelm.
- 65 *Sputum as Culture Medium for Tubercle Bacilli. W. Hesse (Dresden).—Die Bedeutung des Auswurfs als Nährboden für den Tuberkelbazillus. Ein neuer elektiver Nährboden für die Tuberkelbazillen im Auswurf. Beitrag zur Erklärung der Ursache für Lungentuberkulose.
- 66 *Diagnosis by Blood Findings of Marrow Involvement in Malignant Disease. O. Kürpjuwelt.—Zur diagnose von Knochenmarksmetastasen bei malignen Tumoren aus dem Blutbefunde. Ueber myeloide Umwandlung der Milz, Leber und Lymphdrüsen.
- 67 (LXXVIII, No. 1-2.) Ueber Pneumokokken-Lokalisationen. O. Wandel (Basle).
- 68 *Neue Beobachtungen über Herzjagen (paroxysmal heart galloping). A. Hoffmann (Düsseldorf).
- 69 *Bedeutung von Infektion, Heredität und Disposition für die Entstehung der Lungen-Tuberkulose. E. Schwarzkopf.
- 70 Fat Formation in Normal and Pathologic Organs. A. Rosenthal.—Fettbildung in norm. und path. Organen.
- 71 *Ueber Physiologie und Pathologie der fliegenden Milken (Musca volatilis, Mouches volantes, Myodesopsie). M. Buch (Helsingfors).
- 72 Klinische Beobachtungen über ventrikuläre Extrasystolen ohne kompensatorische Pause. O. Pan (Prague).
- 73 *Very Sensitive Test for Biliary Pigment in Urine. A. Jolles (Vienna).—Eine sehr empfindliche Probe zum Nachweis von Gallenfarbstoff im Harn.
- 74 Diverticula and Sound Injuries of Esophagus. B. Fischer (Bonn).—Ueber Sondierungsverletzungen und Divertikel des Esophagus.
- 75 *Zur Kenntnis der Alkaptonurie. L. Langstein and E. Meyer (Basle).
- 76 Study of Action of Local Hydrotherapy on Vessels. F. Lommel (Jena).—Ueber den Tonus der grossen Gefässe und über das Verhalten der peripher gelegenen Gefäßgebiete bei lokalen Wasserprozeduren.
- 77 Die Ausnutzung der Pentosen im Hunger. E. Bendix and K. Dreger (Ebstein's clinic, Göttingen).

61. Exophthalmus and Pressure on Brain.—In 5 cases personally observed by Flatau, and in 10 reported in the litera-

DEC. 5, 1903.

ture, the cerebral affection accompanied by edema of the lids or decided exophthalmus proved to be a tumor in most cases, in others an abscess, hydrocephalus or chronic serous meningitis. He recommends measuring the eyeballs with the ophthalmometer before and after lumbar puncture. These disturbances are probably due to interference with the circulation in the basal sinuses, especially the cavernosus. The effect is not only mechanical congestion and eventual transudation into the orbital cellular tissue, but the innervation of the orbit also suffers from compression of the sympathetic ganglion. This in turn causes an excessive flow of blood into the retrobulbar tissue. In acute suppurative or inflammatory conditions and in case of a tumor the process is liable to invade the orbit and induce the exophthalmus by direct propagation.

65. Sputum as Culture Medium for Tubercle Bacilli.—Hesse has found that scraps of human sputa placed on agar form an elective culture medium for any tubercle bacilli contained therein. The essential requisite for their development is that the alkalinity of the medium must be identical with that of the sputum. This varies with each case. The bacilli in the sputum are almost invariably alive and able to multiply and colonies rapidly develop. He thinks that the facts observed indicate that when the bronchial secretions happen to be of the same degree of alkalinity as the sputa, the lodgment of scraps of sputa in sheltered nooks in the lungs offers unusually favorable conditions for the proliferation of the bacilli *in situ*, which otherwise does not occur. The different degrees of alkalinity of the mucus in man and animals may be the reason why the lesions produced by infection from the other species have so little pathologic importance. He inoculates tiny scraps of fresh sputum on a mixture of 10 gm. agar, 10-25 gm. glycerin and 1,000 gm. distilled water, boiled one-half to one hour and filtered twice, and then poured into tubes in quantities of 25 c.c. in each. One-tenth normal alkaline solution is then added to each tube in varying amounts, ranging from .2, .5 to 1, 2 and 5 c.c. The mixture is then poured out on six plates, and when it has solidified and can be turned upside down the agar is inoculated with a scrap of sputum. The bacilli develop sufficiently for differentiation in one to three days; after one or two weeks the colonies can be differentiated by the naked eye. When this test results positively inoculation of animals is superfluous.

66. Diagnosis of Marrow Metastases of Malignant Tumors by Blood Findings.—Kurpjuweit's clinical observation of 6 cases and analysis of 13 that have been published by various writers, have demonstrated that it is possible to diagnose malignant metastasis in the bone marrow even before the discovery of the primary tumor. The diagnosis is based on the finding of large numbers of myelocytes in the blood, accompanying signs of anemia. These changes in the blood are not the result of the cancer cachexia, but are due to the pathologic condition of the bone marrow which becomes transformed into lymphoid marrow in response to the increased demands on it.

68. Paroxysmal Tachycardia.—Hoffmann gives the particulars of a later series of 5 cases, 3 of which were under observation for a long time. During the abruptly-commencing and abruptly-ending attacks of tachycardia the heart contractions rose to 140, 200 or even 300 in a minute, and the heart action was somewhat irregular during the intervals. The polyuria observed with the onset of the attack and persisting through it unmistakably indicates nervous influences on the entire heart emanating from the medulla. None of the cases presented any evidence of organic disease. One of his patients had the first attack at 58, and has been in continuously robust health during the fifteen years since. The attacks commenced at the age of 9 in another case. The patient is now a man of 52, and has risen to eminence in his profession. In another, the attacks have always been slight, and of late years the subject has been able to abort them every time by holding his breath or lying down and breathing deep. In a number of cases it has been possible to abort the attacks of "heart galloping," as he calls them, by applying pressure to the vagus. One patient is able to ward off an impending attack by squatting down

(Niederhocken). The chief measures for prophylaxis are avoidance of injuries, refraining from smoking and drinking, and overexertion, mental or physical, leading a tranquil life in general.

69.—This was noticed editorially. See page 1348, issue of November 28.

71. Muscae Volitantes.—One of Buch's eyes is normal and the other myopic, 4 D. He has been studying this optic phenomenon of muscae volitantes on himself, as his astigmatism caused exceptionally favorable conditions for such investigation. He found that the floating particles were most numerous after the eyes had been resting at night, and for this and other reasons which he enumerates he concludes that they are formed anew each day, and probably have some intimate connection with the functional activity of the vitreous body. It is possible that they serve as centers of growth. They are seen more distinctly the more myopic the eye, but are essentially a physiologic phenomenon.

73. Sensitive Test for Bile Pigment in Urine.—Jolles has found that by the technic described it is possible to detect even very small proportions of biliary pigment in urine, and the reaction is not affected by the presence of hemoglobin or indican. About 10 c.c. of urine are placed in a test tube and 2 or 3 c.c. of chloroform are added with 1 c.c. of a 10 per cent. solution of barium chlorid. After thorough shaking the mixture is centrifuged and the supernatant fluid above the chloroform is decanted. The tube is then refilled with distilled water and centrifuged again. In deep colored urine it may be necessary to repeat this application of the water. After decanting the fluid above the chloroform and sediment the latter is treated with 5 c.c. alcohol, shaken up well, and then two or three drops of an iodine solution is added and the mixture is filtered into a conical glass. The presence of even the slightest trace of biliary pigment will cause the fluid to assume the characteristic green color, as it stands, and the change in color may be hastened by warming. The solution of iodine for the test is made by dissolving separately in 125 c.c. of alcohol each .63 gm. of iodine and .75 gm. of mercuric chlorid, then mixing the two and adding 250 c.c. of concentrated hydrochloric acid. Jolles recommends this test as exceedingly simple and delicate.

75. Alkaptonuria.—Alkapton is the product of some anomaly in the intermediate metabolism, according to the conclusions of Langstein and Meyer. In isolating homogentisinic acid from urine containing alkapton a between body is obtained, the lakton of this acid, which responds to the Millon test.

Deutsche Medicinische Wochenschrift, Berlin and Leipsic.

- 78 (XXIX, No. 45.) *Physical Diagnostics of Kidney Functioning. H. Koepp (Glessen).—Physik. Diagnostik der Nieren-thätigkeit.
79 *Ueber 100 poliklinisch beobachtete Fälle von Diabetes mellitus: insbes. ihre Beziehung zur Tuberkulose und Arteriosklerose. W. Croner (Senator's clinic, Berlin).
80 *Syphilis and Kidney Surgery. M. v. Margulies (Odessa).—Ueber die Beziehungen der Syphilis zur Nierenchirurgie.
81 Ophthalmia neonatorum und der Gonococcus. F. Schanz.
82 *Changes in Bladder in Case of Uterine Cancer. W. Hilt and K. Sticher (Küstner's clinic, Breslau).—Ueber cystoskopisch nachweisbare Blasenveränderung bei Uteruscarcinom. (Commenced in No. 44.)
83 Apparatus for Making Glycerin Soap Suppositories for Use in the Family as Needed for Constipation in Infants, Adults, etc. H. Steinhil (Kochendorf).—Apparat zum Formen von Stuhlzäpfchen.
84 Die Dispensaires in Belgien und Frankreich. P. Jacob.

78. Functional Diagnostics of the Kidneys.—Koepp's researches and reasoning apparently establish that the osmotic energy influences the concentration of the urine, but is not directly responsible for the excretion of urine, which depends on the hydrostatic pressure. The latter is also responsive to a certain extent for the degree of concentration, as it determines the amount of the urine, that is, of the water in the urine. The molecular concentration of the urine, and thus its osmotic pressure, are dependent on three factors: 1. On the blood pressure, which determines the amount of water in the urine; 2, on the walls of the glomeruli which are theoretically assumed to be permeable on one side only, and when intact allow the excretion of extremely diluted urine. That

is to say, they control the function of producing a very diluted urine, and 3, on the kidney function involved in the production of a concentrated urine. This latter function we at present locate in the epithelium of the kidney and its vacuoles. A single determination of the freezing-point of the urine is not able to enlighten us in regard to the workings of all three of these factors. Repeated investigation is necessary to determine this, and only when certain values remain approximately the same during the most diverse conditions are we justified in drawing practical conclusions from the findings. If the lowering of the freezing point of the urine is never less than that of the freezing point of the blood, even under conditions such as copious ingestion of fluids inducing the production of a diluted urine, then we may safely assume some disturbance in the apparatus in the kidney, which has charge of the production of diluted urine. On the other hand, we may assume some disturbance in the apparatus which has charge of the concentration of the urine when the variation in the freezing point of the urine is never greater, or only very little greater, than that of the blood. This apparatus, as mentioned above, we assume to be the epithelium of the kidney. Two determinations of the freezing point are sufficient for the diagnosis from segregated urine when the difference between the freezing point of the urine from the two kidneys shows that one is functioning less perfectly than the other. The diseased kidney is always the one which excretes a urine in which the variation in the freezing point most closely approximates that of the blood. When the variation in the freezing point of the urine from both kidneys is greater than that of the blood, then the kidney with urine exhibiting the least variation is the abnormal organ. On the other hand, when the variation in the freezing point of the urine from both kidneys is less than that of the blood, then the kidney excreting the urine with the greatest variation of the freezing point is the diseased kidney. This latter condition has not been pointed out before, but it will be encountered during unusually intense diuresis. To insure an accurate diagnosis the urine should be segregated and investigated both during artificially induced diuresis and during conditions in which a somewhat scanty but concentrated urine is usually excreted. This will afford insight into the capacity of the morbid kidney to excrete diluted as well as concentrated urine. In functional tests of both kidneys at once we have likewise to distinguish between the faculties of excreting a diluted or a concentrated urine. After ingestion of 1.8 liters Salvarsan water the freezing point of healthy urine ranged from .09 to .26 C., while the amount of urine during the three hours after the test ranged from 1,020 to 2,170 c.c. In compensated heart defects these figures were, respectively, .16 to .17 and 1,187 to 1,822. In genuine contracted kidney .12 to .38 and 609 to 1,543 c.c. In chronic parenchymatous nephritis .35 to .53 and 339 to 1,112 c.c. In uncompensated heart defects .59 to .77 and 373 to 413 c.c. In subacute parenchymatous nephritis .83 to .87 and 180 to 217 c.c. Uncompensated heart defects and subacute parenchymatous nephritis thus induce somewhat the same changes in kidney functioning, but in the former it is due to the weak heart action, while in the latter it is the result of some defect in the walls of the glomeruli which prevents their delivering diluted urine. [These researches by Kövesi were described in THE JOURNAL, xxxviii, page 1335, title 36, 1902.] Koeppe thinks that perfection of this method—the "dilution test"—will be an important aid in differential diagnosis. He does not know to date of any means by which to test the functioning of the kidney in respect to its capacity of inducing concentration of the urine. We must bear in mind also that the concentration of the urine will differ after long abstention from fluids, and also after ingestion of salt foods and drinks. The concentration of the urine is due to the presence of organic, as well as of anorganic molecules, and the freezing point indicates the values for each. The electric conductivity of the urine is a convenient and valuable method of estimating the anorganic molecules, and should supplement cryoscopy.

79. Diabetes in Relation to Tuberculosis and Arteriosclerosis.—In Croner's 100 cases of diabetes, tuberculosis was noted in

47, either in the patient or his immediate family, and in 32 free from tuberculosis there were evidences of arteriosclerosis. He comments on the frequency of the coincidence of tuberculosis and diabetes in the same family or subject, and suggests that the development of diabetes in a person with a tuberculous inheritance may be regarded as a sign that the individual has escaped the danger of tuberculosis. The constantly progressive increase of diabetes may possibly have some connection with the decrease of tuberculosis. The well-to-do show the larger proportion of cases of diabetes and lesser of tuberculosis, while in the poorer classes there is more tuberculosis and less diabetes. In regard to alcoholism, he remarks that his experience has been that when associated with severe physical labor, as in the case of men driving beer wagons, stonecutters, etc., diabetes is very rarely entailed, while alcoholism in persons under nervous or mental strain is particularly liable to develop diabetes. In cases of associated diabetes and arteriosclerosis, the former may be due to some nutritional disturbance or irritation of the part of the brain involved in the sugar economy of the body. This view is sustained by the tendency to apoplexy frequently noticed in such cases. There may be absolutely nothing to indicate the participation of the pancreas in the morbid process, while everything suggests a cerebral origin. His detailed analysis of his cases can not be condensed into an abstract.

80. Relations of Syphilis to Renal Surgery.—Margulies adds a third to Israel's two cases in which syphilis simulated a surgical kidney affection. Israel removed the kidney in each of his cases, but Margulies recognized the syphilitic character of the lesions after exposing the kidney, and refrained from operating. The complete recovery of the patient after vigorous specific treatment confirmed the diagnosis. The palpation findings and the general appearance of the patient, a woman of 26, suggested a malignant tumor in the left kidney, but functional tests showed that it was working nearly normally, with no hematuria.

82. Cystoscopic Findings in the Bladder in Case of Uterine Cancer.—The findings in a number of cases described corroborate the assertions of other writers to the effect that papillary proliferations, nodules, flat elevations and ulcers in the bladder do not contraindicate total extirpation of the uterus for cancer. True carcinomatous infiltration and metastases are very rare and occur mostly at a very late stage.

Deutsche Zeitschrift f. Chirurgie, Leipzig.

Last indexed page 754.

- 85 (LXIX, No. 2-4.) *Perforating Gastric and Duodenal Ulcers. F. Brunner (Zurich).—Das akut in die freie Bauchhöhle perforierende Magen- und Duodenal-Geschwür.
- 86 *Zur Kenntnis des Tetanus traumaticus. Elsässer.
- 87 *Zur Kenntnis der Myositis infectiosa in Japan. Ito and Sasaki.
- 88 *Male Urogenital Tuberculosis. Kraemer.—Ueber die Ausbreitung und Entstehungsweise der männlichen Urogenitaltuberkulose.
- 89 Dislocation of Metatarsus. Bannes.—Ueber Luxationen im Lisfrancschen Gelenk.
- 90 Fall von Luxatio pedis sub talo nach hinten und innen. Bertelsmann.
- 91 *Necrosis of Skull from Pressure of Bandage. Springer (Prague).—Schädel-Nekrose durch Verbanddruck.

85. Perforating Ulcer in Stomach and Duodenum.—Brunner has collected from the literature nearly 600 cases of acute perforation in which an operation was performed, and reviews the various details summarizing them in groups. Only 10 per cent. of the cases progressed to the perforation without symptoms suggesting the presence of an ulcer beforehand. Statistics show that 95 per cent. of the unoperated patients die and more than 50 per cent. within the first twenty-four hours. The gastric ulcers are located on the anterior wall in the proportion of 7 to 1 on the posterior, and nearer the cardia in the proportion of 5 to 3 near the pylorus. They are more frequent in the lesser curvature than in the greater. 122 to 16. The pain after perforation is generally correctly localized. Most of the perforations occurred during November, the fewest in July and August. His records show 265 perforations operated on in England and only 31 in Germany. 58 in America, 17 in Sweden, and 41 in France. In America, Switzerland and France the number of duodenal ulcers nearly

equals that of the gastric ulcers, but in general it is only one fourth. The ulcer should be excised, and as promptly as possible. Only in the absolute impossibility of excision is it permissible to incise the edges and suture the perforation. Brunner advises flushing the abdominal cavity with 40 per cent salt solution when it is very much soiled. In recent cases the abdominal cavity can be entirely closed after thorough cleansing. The best results were obtained when the operation was performed during the first eight hours. The general results have been that one third of the patients operated on have recovered. In a personal experience with 3 cases, one in ulcer of the stomach, with operation in four and one half hours after the perforation, and an ulcer of the duodenum, with operation in six and one half hours, both patients recovered. Another gastric ulcer was not operated on until the eighth hour and the patient succumbed. In 6 other cases in Switzerland in which intervention is not possible until the eighteenth hour none of the patients recovered. The monograph fills 133 pages.

86 Traumatic Tetanus.—Less than half of the 24 cases reported were seen before the second week after the accident. Ten of the patients recovered. The incubation was less than a week in a third of the cases. The treatment pursued at Berne is iodine, carbolic acid and the thermocautery to the wound, applied with great energy and as early as possible, immediate injection of serum, in particularly urgent cases directly into the brain or dura, narcotics in abundance and an injection every hour of 1 cc of a 3 per cent solution of carbolic acid, supplemented by subcutaneous saline infusion, nutrient enemata and isolation of the patient in a quiet room.

87 Myositis Infectiosa.—It has been observed 10 cases in Japan in which a benign cutaneous suppurative affection was followed by acute inflammation of the situated muscles. In every case except one, the inflammation progressed to abscess formation, requiring incision. The staphylococcus was isolated in each case. He regards the affection as hematogenic, similar to osteomyelitis, a "pure culture pyemia."

88 Origin and Mode of Propagation of Male Urogenital Tuberculosis.—The experimental research described and the writers' clinical experience apparently establish that tuberculous infection always spreads in the direction of the outflowing secretions, never against the current. The prostate may become infected from the testicles, but the ureters and kidneys never from the bladder. This view is confirmed by the efficacy of extirpation of the testicles in case of tuberculous lesions in them, and also by the arrangement of the lesions in the kidneys and ureters, which always indicates a descending affection. The testicles and the kidneys are liable to infection through the blood or lymph or from congenital infection. The kidney process may spread to involve the ureter and bladder and the prostate, but not to the other kidney nor to the testicle. Tuberculous infection of the testicles from corpus is impossible according to Kraemer's views as it would have to occur against the current of the secretions. He also excludes the possibility of direct propagation from one testicle to the other. When the second testicle becomes affected it is by the same mode of infection as the first, through the blood or lymph. Tuberculous lesions in the bladder, seminal vesicles and prostate almost invariably proceed from the kidneys or testicles, and this may occur even in the absence of lesions in these organs, or else they may be of independent origin, congenital or hematogenic.

91 Necrosis of Skull Under Bandage.—Subsequent to the removal of an angioma on a babe 13 months old, a band of dry gangrene developed on the skull, corresponding to the dressings, involving the skin and periosteum. The gangrenous tissues sloughed off and with them eight flat sheets of bone, some as long as 6 cm. Recovery was not complete until after thirteen months. The band of gangrene almost completely encircled the head, extending from side to side of the brow, and nearly its entire width. The patient presented an enteritis at the time the gangrene developed. The bandage was a "mutter" stiffened with starch and the decubitus developed in three days.

Zeitschrift f. Geb. und Gynakologie, Stuttgart.

Last indexed page 1378

- 92 (XLIX, No 1) *Unusual Causes for Repeated Interruption of Pregnancy. L Kleinwächter.—Ueber wiederholte Schwangerschaftsunterbrechung seltener Aetologie (Vienna)
- 93 *Zur Therapie der Gynasthenie J Halban (Vienna)
- 94 Adenomatous Proliferation of the Serosa in an Abdominal Cyst. R Meyer (Berlin).—Ueber eine adenomatöse Wucherung der Serosa (Berlin)
- 95 *Zur Aetologie der Uterusmyome O v Krieger (Wien)
- 96 Ueber Chorioepitheliom O v Krieger (Wien)
- 97 Study of Birth Mechanism S Gottschalk.—Zur Lehre vom Geburtsmechanismus (Stuttgart)
- 98 *Pregnancy and Parturition W. —Die Beschaffenheit des Blutes in der Schwangerschaft und der Geburt
- 99 Embryologic Study of Placenta in Case of Twins, etc. Schnell (Frankfurt).—Eine seltene Zwillingsschwangerschaft, etc.

92 Unusual Causes of Abortion.—Kleinwächter found that laceration of the cervix was the cause of the habitual abortion in 2 out of his 11 cases. After the tears had been sutured there was no further disturbance from this cause. In 3 or 4 other cases the habitual abortion was due to relics of preceding inflammations in the pelvic peritonium. In case of an ectopic men the uterine conception seldom occurs and rarely proceeds to its normal termination. In 12 cases he noted habitual abortion as due to fibromata of the uterus, heart affections, diabetes mellitus, hydræmia and emphysema of the lungs, the latter once, the others in 2 to 4 cases each.

93 Treatment of Gynasthenia.—Two cases with complete absence of any cervix were treated by Halban as follows: The first patient was a young woman presenting a hematometra. He made an opening into the fundus and placed the uterus in extreme anteversion, suturing the opening into the fundus in the roof of the vagina. He calls this intervention elytrorhysterostomy. The patient menstruated thereafter regularly. The second patient was relieved of a hematoma in left round ligament and ovary, and a hematometra in a rudimentary accessory cornu. The more usual methods of treatment of gynasthenia are reviewed.

95 Etiology of Tubal Pregnancy.—Anomalies were found in the tube in every one of 10 cases examined, and the nidation in the tube is explained by the irregularities or processes mechanically arresting the ovum.

98 The Blood During Pregnancy.—Zingmeister's research confirms the assertions of Nasse that the blood is hydremic during pregnancy. The plasma and the serum must be examined separately. The specific gravity, albuminoid content and molecular concentration are less than normal in the serum during pregnancy, while the proportion of chlorides is higher than at other times. The plasma seems to contain more water than under other conditions. The actual condition is that of a hydroplasma instead of hydiæmia, although for certain reasons the latter name is preferable. He found the alkalinity of the blood rather diminished, the red corpuscles somewhat more concentrated than usual, as well as more numerous.

Riforma Medica, Palermo.

- 100 (XIX, No 43) Studi sperimentali e clinici sulla tubercolosi praticati nel corso dell'anno scolastico, 1902-1903. D. Magagnoli (Genoa)
- 101 Surgical Treatment of Infected Wounds of Kidneys. P. Sorrentino.—L'intervento nelle ferite infette del rene

Russkii Vrach, St. Petersburg

Last indexed page 1057

- 102 (No 16) *Contagiousness of Leprosy. D. F. Ryshetillo.—Zaizhitel'naya ili neiznaya ili pyatnisto-anesteticheskaya forma prokazy?
- 103 O vulvo-vaginitis u dyetei (in children). V. I. Dukelski (Concluded)
- 104 Principal Properties of Pancreatic Juice. L. B. Popelski.—Ob osnovnykh svoystvakh podzheludochnago soka
- 105 *Preservation of Anatomic Specimens. L. L. Heidenreich.—O naikutsheishchikh zhidkostykh sredakh sokhraneniya anatomicheskikh preparatov
- 106 (No 17) Radioscopy and Other Means of Differentiating Early Phases of Pulmonary Tuberculosis. D. I. Vyei.—Röntgen'skoye i drugie sposoby razpoznavaniya
- 107 *The Diagnosis of Leprosy. F. N. Ivanhoff.—Ob znachenii i razpoznavanii leprosy (Leprosy)
- 108 *Value of Copper Citrate in Ophthalmology. A. G. Kriozoff.—O dyestvii limonnikovoy kisloty (cupric citric) pri nystagmizme i glaznykh zabolevaniyakh
- 109 (No 18) *Ligation of Lower Third of Ulnar Artery. K. I. Susloff.—K raznostnykh perev'yazkakh lozterov artérii v nizhnem tre't'e predplechya

- 110 New Form of Granular Degeneration of Striped Muscle Fibers. G. P. Zeleny.—Novy vid zernistago pererozhdeniya poperetchno-polosatykh myshetchnykh volokon.
- 111 *Concentrated Diphtheria Antitoxin. S. V. Korshun and others (Charkow).—O. prigotovlenii slinol protivodiphtherialnoi syvorotki.
- 112 Microphysiology of Lachrymal Gland. A. I. Voronoff.—K mikrofyys. sleznoi zhelezny.
- 113 *Photospiculum dlya primyeniya svyetoletcheniya v gynecologii. I. I. Makavleff.
- 114 Treatment of Reflex Anuria. M. L. Kreps.—K lyetcheniyu t. naz. calculeznoi anurii.

102. Contagiousness of Leprosy.—Ryeshetillo thinks that the frequent finding of the lepra bacillus in the throat and nose of subjects with the maculo-anesthetic, the nervous form of leprosy, indicates that there can be no doubt as to the contagiousness of this form. Dehio has recently announced the contrary, but the frequent occurrence of this form in some members of a family while others exhibit the tubercular form is certainly significant.

105. Fluid for Preservation of Anatomic Specimens.—Heidenreich discusses the various preserving fluids in use, commenting on the fine appearance of the specimens exhibited at the last Paris exhibition which had been treated by the Riche-Godard technic. They had been soaked twenty-four to forty-eight hours in a fluid consisting of 150 parts formalin, by weight, 1,000 parts distilled water, 10 parts potassium nitrate and 30 parts potassium acetate. They were then drained and transferred to 80 per cent. alcohol for twelve, and then to 95 per cent. alcohol for two hours, after which they were placed in a mixture of 100 parts each of glycerin and distilled water and 30 parts potassium acetate. Equally fine results are obtained with the Melnikoff-Razvedenkoff technic, which includes a bleaching fluid, a mixture of 10 parts formalin, 100 parts water, .5 parts potassium chlorate and 3 parts potassium acetate. The specimens are then transferred to weak alcohol, gradually increasing the strength to 95 per cent. After a few days the color is restored by a bath fluid consisting of 30 parts potassium acetate, glycerin 60 parts and 100 parts water. Heidenreich has found a less expensive and simpler technic to be fully as effective. His method is based on the use of a cheap commercial embalming fluid, holzin, which is a combination of 3 parts formalin and 2 parts methyl alcohol. He used a mixture of 7 per cent. of this holzin in 2 parts of glycerin to 1 of water, to which was added 10 to 20 per cent. of chloral hydrate. A human hand, for example, treated by this technic retained its tints and aspect perfectly for several months exposed to the air in the warm laboratory, without a trace of decomposition. He therefore recommends this technic for general adoption on account of its simplicity and inexpensiveness.

107. Tuning Fork in Diagnosis.—Ivanoff proclaims that it is possible to utilize the tuning fork for percussion, and that the findings are more delicate and accurate than by the ordinary methods of percussion in vogue. He describes the theoretical grounds for this assertion, and also gives his experience. He first tried various stringed instruments, etc., but found nothing so well adapted for the purpose as the tuning fork, the handle placed on a flat or curved plate resting on the part to be examined. One of the vibrating prongs is then touched with the percussion hammer, and the vibrations imparted to the palm of the hand holding the hammer appeal to the muscle sense in a characteristic way, besides the information derived by the ear from the musical tone. This mode of percussion will be found useful in outlining certain organs, especially in cases in which ordinary percussion is contraindicated by hemorrhage or extreme sensitiveness to contact, and for children. The ear perceives the strength of the musical note, its pitch, the difference between the pitch as the tuning fork is moved, and the harmony or discord between the tones. The palm learns to perceive the strength of the vibrations, and also the pitch of the tone, and recognizes something analogous to harmony and discord in the regularity of the vibrations. Interfering overtones may be suppressed by damping the prongs at certain nodes, as he shows in 4 cuts.

108. Copper Citrate in Ophthalmology.—Krotoff has found a pencil of copper citrate a valuable means of treating certain eye affections, especially pannus. Only 4 out of 39 cases of

pannus tenuis were not improved, and only 5 out of 17 with pannus crassus. Chronic conjunctivitis was not affected except in 1 out of 10 cases, and trachoma in only 3 out of 12. He has applied it in 109 ophthalmic cases.

109. Ligation of Ulnar Artery.—Susloff warns that an accessory muscle sometimes occurs abnormally in the forearm, and might interfere with ligation of the ulnar artery.

111. Concentrated Diphtheria Antitoxin.—Korshun's experiences demonstrated that small, frequently repeated injections of the diphtheria toxin were better tolerated by the horses and resulted in the production of a more concentrated serum than when larger amounts were used. Horses between the ages of 4 and 9 were the best subjects. By reducing the doses and repeating the injections every day they finally succeeded in producing an antitoxin that represented 1,000 units to the cubic centimeter. The local and general reaction bear no relation to the elaboration of the antitoxin, and, in fact, the latter proceeds better when the former are minimal.

113. Phototherapy in Gynecology.—Two instruments are described and illustrated devised for the purpose of applying the benefits of electric light treatment directly to the internal genitalia. The first is an incandescent lamp fitted in an ordinary glass speculum, designed for a current of 10 volts. The second apparatus is more complicated, and will bear a current of 50 volts. A continuous flow of water circulates around the lamp to prevent burning the parts. He reports 3 cases rapidly cured by the use of these instruments.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60 Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30-Patient Perpetual Contain 32 pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber and Calendar for Two Years. Price, \$1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co. 1903.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden, Physician in Chief to the City Hospital, Frankfurt a. M. Authorized American Edition Translated under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College. Part IV. The Acid Auto-intoxications. By Prof. Dr. Carl von Noorden and Dr. Mohr. Cloth. Pp. 80. Price, 50 cents. New York: E. B. Treat & Co. 1903.

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Address.

THE TREND OF GYNECOLOGIC WORK TO-DAY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN, AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

A. PALMER DUDLEY, M.D.

Professor of Gynecology, New York Post-Graduate Medical School, New York; Professor of Gynecology, Dartmouth Medical College, Hanover, N. H.; Surgeon to Harlem Hospital.

NEW YORK.

An honor unsolicited extended to a member of this body should certainly be most highly appreciated, and I wish to express my most sincere gratitude to you for the honor of being chosen to preside at this meeting, an honor which I never for a moment even dreamed would fall to my lot. And if, as I proceed in the discharge of my duties, you are made painfully aware of my incompetency to occupy such a position; if you murmur regrets for your act of last year in electing me to this honorable position, I shall feel that it is but just.

I will be candid in saying that when in the small hours of the morning, nearly a year ago, I received a telegram announcing my election, accompanied by congratulations, my pleasure was marred by a feeling of regret, for I had promised to attend the meeting at Madrid, and I knew that it would be impossible, unless I deserted my post and confrères here. But, having the interest of our national body at heart, and unsolicited being one of its officers for the present year, I forwarded an apology to the committee at Madrid for my absence, and put my longings for the ocean aside. Why? Because I instantly realized that a visit to this ancient and delightful city of the south would be attended with equal pleasure and profit; and I am sure that ere this meeting adjourns my prophecy will be fulfilled.

Therefore, anticipating pleasure for you all for the next few days, I know that you will indulge me, if I inflict on you for a short space of time the necessity of listening to a review of what is already ancient literature in gynecology and obstetrics.

If I at the close of my remarks look wise and offer you advice for the future, be it ever so erratic, which is the customary duty and privilege of your chairman, you will realize that I am only following in the footsteps of my predecessors. But, instead of trying to interest you with ancient literature and paint glowing pictures for you for the future, I prefer to tell you of what I have accomplished in the past year in my effort to place before you at this meeting a just and unbiased expression of the best men in the country (whose lives have been devoted to our chosen specialties) concern-

ing the trend of gynecologic work to-day, which, I am sure you will agree with me when I am finished, shows a marked tendency toward conservatism rather than radicalism in operative work.

A quarter of a century ago, he who would have advocated conservative surgery on the uterine appendages of woman would have been considered by the profession at large, the world over, a fit subject for an asylum.

How the lapse of time, study and experience has changed every feature of this picture of the past, until at the present time he who would cling to the traditions of that period would be looked on as antiquated even in his youth. The necessary courage required by the operator of a quarter of a century ago to withstand public opinion against his invasion of the abdominal cavity of woman, would be looked on at the present time, even by laymen, as an evidence of cowardice or ignorance on the part of even the family physician, if he hesitated for a moment to advise that his patient, be it child or aged person, should receive the necessary and expected relief attendant on prompt invasion of the abdominal cavity for pathologic changes from whatever cause, and to the average physician or surgeon so easily demonstrable at the present time.

What a panorama a review of the past quarter of a century presents to those who are familiar with these changes. The names of the star actors in this domestic drama—in which tragedy has played no little part—are already recorded in history as masters of their art and profession. But, even though nothing shall be taken from them, to their students, their national professional heirs, must be given the credit of at least making the effort of rescuing womankind from the ravages of an enthusiastic aspirant for surgical honors, who could only see radical removal of all in his path as his license to success. What a parody! How many thousands of suffering, misguided women have offered up their pelvic organs as a sacrifice, for the simple promise from such an ambitious aspirant for professional preference, that such sacrifice would immune them from all future unpleasant conditions peculiar to their sex. And how bitterly have these poor misguided women regretted in the years that followed their misplaced confidence so generously bestowed, when the knowledge was forced on them by sad experience that they had changed one condition of suffering for another equally as disagreeable.

But such is life in all things experimental, and our profession has never been an exception to the rule. These sacrifices, so far offered up by woman to her suffering kind, are bearing fruit for good, as I shall hope to demonstrate with the consensus of opinion expressed by the leading operators of the United States. You, gentlemen, are as familiar with the history of the evolution of gynecology and abdominal surgery during the past quarter of a century as I am. It is, therefore, un-

silk, the ordinary floss silk No. 00, such as is sold by the dry-goods stores. I never use catgut for this purpose, because I can not be positive that catgut is absolutely aseptic, and I have no wish to introduce sepsis with my suture material. Moreover, catgut that would last twelve days in the tissues, the time necessary for healing, would oblige me to use a very large size and a very large needle, and the result would be troublesome oozing from the needle punctures. Therefore, I use a very fine silk and cambric needle, and carefully approximate the parts. The silk will last as long as you want it to. Two years ago there came into the hospital a woman with a retrodisplaced, bound-down uterus. The tubes were also bound down. At her request I did not remove the appendages, although the condition was not as good as in many other cases. I broke up the adhesions, resected a half of each ovary and tube, and did a ventrosuspension. The woman recovered perfectly. She came occasionally to the clinic, as requested for observation, and one day a very large speculum in the hands of a student caused her much pain. At that time she was a few days passed her period and she at once began to bleed. We operated on her expecting to find an ectopic gestation, but instead I found a blood-vessel in the broad ligament had been ruptured and there was a large hematoma. At the second operation I found that the silk which I had used at the first operation, four and a half months previous, which was a twisted Japanese silk, although fine, was still unabsorbed at the tip of the tube. A year ago the woman again presented herself, seven and a half months pregnant. In this case only one-half of one tube and one-half of one ovary had been saved.

The surgeon who now does radical work in all cases, and I mean by that removal of organs that could possibly be saved to the woman, is open to the criticism of not being a conscientious man. He may be looked on as not even a good mechanic, for skilful men are now doing myomectomy for fibroid tumor in suitable cases with conservatism as their goal, and a large number of pregnancies have followed their work, whereas but a short time ago complete hysterectomy seemed to be their only recourse. Of the 269 patients from whom I have removed portions of tubes and ovaries, coupled with various forms of plastic operations, including ventrosuspension and ovarian suspension, I have so far been able to trace 43 pregnancies, 35 going to full term and 8 abortions. Many of the 269 cases have, of course, been lost sight of, as is inevitable in hospital practice.

Now, take, for instance, a case of salpingitis pure and simple. The fibriated extremity is closed, dilated and club-shaped. The tip should be opened with scissors and the contents evacuated. It should then be washed out. If the tube contains pus it is best to wash it out before probing, in order that we may not carry septic material further into the tube. The tube should be aspirated, then washed out with one of these four solutions: (1) Normal salt solution; (2) 20 per cent. carbolic acid; (3) 1/5,000 bichlorid; or (4) a very weak solution of permanganate of potassium. After this is done, open and probe the tube. Catch up the tube and straighten it out, bearing in mind the direction of the uterine portion. Introduce the probe gently, and if it passes into the uterus, we will know that the tube is patent. Then, if the tube has not already been washed out, this is done. If the uterus has not been packed previously, it will be noted that some of the irrigating solution will be noticed in the vagina. If so, what excuse have we for removing the tube? None. Our aim

is to keep that tube open so it will not close again; therefore, you do a phimosis operation on the end of the tube. Split up the dilated portion and roll it out. Then with fine silk and cambric needle, with over-and-over stitch, you go all around the tip of the tube, until you come to the place you started from, the probe being still in position. The fimbriæ have been used up and absorbed and you have got to have something to aid the passage of the ova into the uterus. The canal of the tube is lined with ciliated epithelium. These cilia are constantly waving back and forth and it is this wave-like motion which carries the ovum into the uterus.

In hematosalpinx (dilatation of the tube with blood), the same condition exists, except that instead of being filled with serum or seropus, the tube contains blood that should have been carried off through the uterus at the menstrual period. It is usually due to displacement or twisting of the tube causing a damming up of the blood. This condition is not septic and tubes thus affected can be saved. As the condition is usually due to displacement of the uterus, this must be remedied. The adhesions must be broken up and the uterus replaced and kept in position by ventrosuspension and the tube treated in the same manner as for salpingitis.

Hydrosalpinx, a dropsical condition of the tube, due to repeated congestion and arrested drainage from any cause, is usually the result of displacement of the uterus. It should be treated as a salpingitis and hematosalpinx.

In all these cases it is necessary to have a full history in order to determine the different varieties of tubal disease. A history of gonorrhea, or abortion, or puerperal infection will at once put us on our guard, for in such cases the affection is usually septic. One word in regard to pus: It is well to remember that non-septic pus, formerly called "laudable pus," is free from odor, while septic pus is very foul. If the pus of pyosalpinx is septic, beware of it. In 95 out of 100 cases occlusion of the tube is present after septic abortion. In the other cases the pus will flow into the uterus. The latter cases are favorable. In all pyosalpinx cases the field of operation must be carefully protected with gauze packing in order to prevent peritoneal infection, be the method used abdominal or vaginal. It is well to have at hand a large hypodermic syringe or an aspirator and to tap the pyosalpinx before you open the tube, in order to ascertain the character of the pus. If septic, inject the tube with a 1/1,000 bichlorid solution and withdraw the fluid, repeating this procedure a number of times, in this way avoiding possible infection of the surrounding parts by evacuating the contents before splitting up the end of the tube. If it is difficult to get the tube into view we must place the patient in the Trendelenburg posture so that we can see the tube *in situ*. After we have made sure that the tube is patent, we need not hesitate to drop it back into the peritoneal cavity. If it is not septic, the peritoneum will take care of it. Moderate oozing will also be taken care of by the peritoneum, but we must guard against any distinctly bleeding point at the end of the tube.

Now, respecting complications and after-treatment of these cases. One complication is fibroids, small or large. If possible, myomectomy should be done. In doing this one point is to be remembered; we must not take the fibroid off too close to the uterus, for in that case we will leave a gaping wound. Enucleate the tumor in such a way as to leave sufficient peritoneal covering to be able to close the wound without traction. Split the capsule and take the fibroid out and remove the tumor by morcellement if necessary. Then with catgut No. 1,

chromic—I do not use silk in the fundus, because the uterine tissue will contract and leave the sutures loose—bring the flaps of peritoneum together with a continuous suture. Good drainage is essential in these cases. If the fibroid is buried deep in the uterine tissue, it is well to make an opening into the uterine cavity to provide for drainage. This will guard against a collection of blood or pus within the muscular structure of the womb. Two or more rows of sutures are sometimes necessary to close the uterine wound left by the removal of a fibroid. If there are several fibroids, never mind how small, repeat the procedure, removing all. Cul-de-sac drainage is sometimes necessary.

In order to hold the uterus up in these cases, I do ventrosuspension by means of two salmon-gut sutures inserted through the fundus and abdominal wall, and leave them there three weeks. At the end of that time a firm suspensory ligament will have formed, and that will hold the uterus up. This is essential in conservative surgery on the tubes.

I never do ventrofixation. There is a marked difference between that and ventrosuspension. Fixation is a pernicious procedure. It immobilizes the uterus and interferes with diaphragmatic action of the pelvic structures. Rather than do fixation I would suggest knuckling the round ligaments and in this way shorten them and hold the uterus forward, by the operation of Ferguson, McGannon or Byford. The latter operates somewhat as I do. Bear in mind that the object is to suspend the uterus so that it can not become retroverted and again drag down the tubes and ovaries.

After the patient has been put to bed you may be nervous about the case for the first 24 or 48 hours, but the patient will usually get well. If you close the abdominal wound properly, there is no reason why the patient should have a hernia; neither is there any danger of intestinal paresis if the patient is properly treated. As soon as she comes out of ether she should be given a saline, to increase the vermicular action of the intestines, empty the stomach and carry away gas. Three, four, five or six Sedlitz powders should be given. Do not let the patient lie all the time on her back, but have the nurse move her first on one side and then on the other. This will prevent the formation of adhesions by changing the position of the intestines. The bowels should move at the end of 24 hours. This is important. The intestinal canal is the best drainage-tube you can have. Do not give morphin, for morphin will mask every symptom that can possibly arise; it will stop peristalsis; it will stop all secretions; it will permit sepsis; it will produce nausea which can not be distinguished from the continued nausea of ether or from the nausea of intestinal obstruction. No food should be allowed until after the bowels have moved. Then you can begin with milk and Vichy. You will find that this treatment will produce good results.

It is well to keep the patient in bed for fourteen or sixteen days. If you have made ventrosuspension I advise you to allow the stitches to remain in for twenty-one days. They may possibly cut into the abdominal wall and make it sore, or even cause a small stitch abscess, but this will do no harm. The first menstruation may be delayed. As soon as the first symptoms appear it is my practice to put the patient to bed and keep her there until two days after the flow has ceased, for she has not fully recovered from the operation, and the parts are not yet able to bear the distension and engorgement. (A mild cathartic should also be given.) If the ovary enlarges during this temporary stage of con-

gestion, put the icebag on the abdomen, and keep it there day and night until the fever following the congestion has subsided. I give hot, vaginal douches at a temperature of 116 F. four times a day for such a condition. If this is unpleasantly hot to the external genitals, I apply an ointment of aristol or zinc. I do not poultice the abdomen. The icebag is better. Intercourse should be forbidden for two months after the operation.

Since 1887 many operators have taken up this conservative work and excellent results have been recorded. The work has advanced to such an extent as to revolutionize pelvic surgery and save to thousands of women appendages that would formerly have been sacrificed. The operative mortality is significant, sex is maintained, the subjective and objective symptoms are relieved in the vast majority of cases, and over 10 per cent. of the women are known to have continued to bear children. When we bear in mind that the majority of these cases can not be followed up it is reasonable to suppose that the number of parturients is much in excess of 10 per cent.

The following material, which I have secured by correspondence, is appended in alphabetical order:

W. H. BAKER, BOSTON. -

One case. Removed one ovary and tube. Resected other ovary. Woman became pregnant.

This case is peculiarly interesting because the patient with one-half of one ovary gave birth to twins.

H. J. BOLDT, NEW YORK.

Total number of cases.....	82	Which ovary not stated....	1
Left ovary diseased.....	32	Left tube resected.....	20
Right ovary diseased.....	33	Right tube resected.....	19
Which ovary not stated....	13	Which tube not stated....	1
Left tube diseased.....	24	Left ovary removed.....	0
Right tube diseased.....	23	Right ovary removed.....	4
Which tube not stated....	1	Left tube removed.....	3
Left ovary resected.....	26	Right tube removed.....	4
Right ovary resected.....	26	Ventrosuspensions.....	7
Which ovary not stated....	12	44 patients, average age....	30
Left ovary punctured.....	4	Pregnancy.....	1
Right ovary punctured.....	3	Died.....	0

Dr. Boldt adds:

My opinion, based on numerous observations, is that whenever possible a part of the pelvic organs should be saved by plastic surgery instead of being removed by radical operation. I have not found that conservative operations done on patients who have suppurative disease of the adnexa have been productive of subsequent pregnancies, but the menstrual function has been retained, which is very essential because of the nervous system.

My invariable rule when operating on ovarian tumors has always been to leave whenever possible a part of the ovarian stroma, not so much in the hope that pregnancy will follow, but in order to maintain the function of menstruation.

I hardly think ignipuncture of the ovaries justifiable or conservative; best left alone.

J. BRETTAUER, NEW YORK.

Total number of cases.....	31	Right tube resected, etc....	7
Left ovary diseased.....	12	Which tube not stated....	10
Right ovary diseased.....	11	Left ovary removed.....	3
Ovary diseased not stated....	13	Right ovary removed.....	4
Left tube diseased.....	11	Which ovary not stated....	3
Right tube diseased.....	13	Left tube removed.....	3
Tube diseased not stated....	12	Right tube removed.....	6
Left ovary resected or punctured.....	7	Which tube not stated....	2
Right ovary resected or punctured.....	7	Pregnancies.....	3
Which ovary not stated....	11	Ventrosuspensions.....	2
Left tube resected, etc....	8	Appendectomy.....	1
		Vaginal section, at least....	17

A. BROTHERS, NEW YORK.

Total number of cases.....	50	Pregnancies.....	8
Vaginal sections.....	18	Ventrosuspensions.....	6
Laparotomies.....	25		

Dr. Brothers, in reporting the 50 cases, regrets his inability to give fuller details concerning the occurrence of pregnancy, because the majority of his cases were

monthly or weekly bulletins, with the view of formulating a uniform series of tables considered desirable for this purpose.

8. To determine what forms of tables should be included in the annual reports of the census office in order to furnish the greatest practicable amount of information for general purposes.

9. To enlist the assistance and co-operation of all organizations, societies, or persons interested in the subject of registration or its results, in reaching satisfactory conclusions regarding each projected step in the proceedings, and, finally, in carrying each step into practical effect.

A beginning was made with the publication of Census Circular No. 71, containing a paper prepared by the experienced and capable registration officials and statisticians constituting the committee on demography and statistics in their sanitary relation of the American Public Health Association, which paper outlines the essential requirements of a law for the registration of deaths and prescribes a standard form of death certificate, with an explanation of the use and importance of the items of information called for.

Following this general plan, the international classification of causes of death, then coming into general use in the United States, was adopted by the census office for its annual reports, and work was at once commenced to make the extensive labor involved in classifying the returns received from all registration areas available for the benefit of local statisticians, by preparing a comprehensive index to the classification as applied in practical work.

The subject of uniformity and progressive action was presented to the consideration of the Conference of State and Provincial Boards of Health of North America, at its meeting in 1902, and that body gave its approval to the movement by the appointment of a committee to co-operate in its advancement and by the adoption of the following resolution:

RESOLUTION OF THE BOARDS OF HEALTH CONFERENCE.

Resolved, That a committee be appointed by the Conference of State and Provincial Boards of Health of North America to co-operate with the United States census office and with similar committees from the American Public Health Association, American Medical Association and from other organizations, in the promotion of the uniformity and comparability of mortality and other vital statistics and their satisfactory presentation in statistical reports and bulletins.

The "Manual of the International Classification of Causes of Death" was then printed and distributed by the census office. This explains the titles of the classification—their application is statistical work—compares the classification with that previously used, and gives an alphabetical index showing to which titles nearly 2,000,000 deaths reported at the censuses of 1890 and 1900, in thousands of different terms, were referred. This is fully cross-referenced, and the terms are also rearranged in a tabular list showing exactly what terms are included under each title. Certain general rules for the disposition of cases in which two or more causes of death were jointly reported are included. Further work is in progress for deciding a satisfactory method of disposing of jointly returned causes of death adaptable for general use. This very difficult problem appears to have been solved by Dr. Cressy L. Wilbur, medical referee for the census vital statistics, in his plan of numerical rating, on which he has prepared a special paper to be presented to the consideration of this Association. So far as tested here the plan promises admirable results attainable by a simple and easy method.

The general adoption of the international classification and the use of the "Manual" referred to will insure a comparability in the various mortality statistics published that can not be secured in any other way, and the notes and memoranda expressing the opinions of all persons using the classification on the merits of the classification itself will be filed and arranged for presentation to the commission of revision, which holds its next meeting in 1910. In this way the united opinions of all American users of mortality statistics can be made most effective in securing desirable modifications in the classification. All persons who make use of the international classifications are invited to file any notes, criticisms or suggestions for this purpose that appear pertinent to them.

The work of the census office and of the committee on demography, also the "Manual" and the "Standard Certificate" referred to above, were specially endorsed and approved by the American Public Health Association at its last annual meeting (Dec. 8-12, 1902) in this city, and the committee was authorized to represent that association in further work on the same lines. As a very complimentary recognition of the work of the census office the chief statistician for vital statistics was appointed chairman of the committee for the present year. The following resolution was adopted by the association:

RESOLUTION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Resolved, That the efforts of the committee on demography and statistics of this association, in conjunction with the United States census office, to secure the extension of the registration area by the enactment of suitable laws and the use of a standard form of certificate of death, as shown in Census Circular No. 71, be heartily commended and that the committee be further authorized and directed to co-operate with the census office, the United States Public Health and Marine-Hospital Service and other departments of the Federal government interested in vital statistics and with similar committees from other associations in the work of promoting the adoption of suitable registration laws and the extension of the registration area, the proper compilation and presentation of vital statistics by states and cities in weekly or monthly bulletins and annual reports, and also in further work relating to the extension and practical use of the international classification of causes of death, the disposition of jointly returned causes and all preliminary work relating to the next decennial revision.

A resolution was drafted and presented to Congress reciting the condition of registration in the United States; the necessity for registration under uniform laws; describing the movement initiated by the census office in conjunction with the American Public Health Association; expressing approval of the movement, and requesting "the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration." This resolution passed both houses of Congress, and was approved by the President Feb. 11, 1903. The text of the resolution is given below:

RESOLUTION BY CONGRESS.

WHEREAS, The registration of births and deaths at the time of their occurrence furnishes official record information of much value to individuals; and

WHEREAS, The registration of deaths, with information on certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and

WHEREAS, All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and

WHEREAS, Registration in the United States is now confined to a few states, as a whole, and the larger cities, under local laws and ordinances which differ widely in their requirements; and

WHEREAS, It is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records; and

WHEREAS, The American Public Health Association and the United States census office are now co-operating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements of legislative enactments

designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the attention of the legislative authorities in non-registration states, with the suggestion that such legislation be adopted; now, therefore,

Resolved, By the Senate and House of Representatives of the United States of America in congress assembled, that the Senate and House of Representatives of the United States hereby expresses approval of this movement and requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration.
(Approved Feb. 11, 1903.)

Following this action, a circular (No. 100) was prepared containing the resolutions adopted by Congress and the American Public Health Association, the paper of the committee on "The Essential Requirements of a Law for the Registration of Deaths and the Collection of Vital Statistics," and a specimen form of an adequate law, drafted in accordance with the principles laid down by the committee. This circular has been sent to the governors of all states that do not now have an effective system of registration. It has also been sent to all medical societies, medical journals, registration officials, and other persons known to be interested in the subject.

The form of law presented in this circular is an improvement in many respects over any of those now in operation. The ideas governing its construction may be stated as follows:

1. The creation of a state registration service, fully authorized to carry out the purpose of the law.
2. The prohibition of burial or removal of dead bodies without a properly authorized permit, based on a complete and satisfactory certificate of death.
3. The use of a uniform certificate for obtaining the information desired as a precedent to issuing the permit.
4. The fixing of the responsibility for making the certificate and filing it with the local registrar, and the obligation to make the return complete in all of its details.
5. The fixing of responsibility on the local registrar for a critical examination of the return and for seeing that all of the information required is properly stated before accepting it.
6. The fixing of responsibility on the state registrar, or chief administrative officer under the law, for examination of all returns made by local registrars, and for immediate action in case of delinquencies, or to obtain data, corrections, etc.

These provisions are based on the theory that the purpose and intent of any such law is to secure a complete and properly executed return of every death that occurs—that the form of certificate adopted indicates what constitutes a complete and proper return—and that no return is complete and proper that does not supply the data desired for all purposes of registration as fully and circumstantially as is possible, by searching inquiry, under the conditions of the case.

Replies so far received from governors show that many of them are favorably disposed toward recommending such legislation at the next session of their legislatures, indicating a probable extension of the registration area that is most gratifying. To insure such action the medical societies, journals and physicians in each state should unite to exert their powerful influence. State and county medical societies, in particular, should adopt some concerted plan of action by which the co-operation of the legislative authorities can be secured. Probably all of the members of this Association are also members of state or local societies, and, therefore, each one can contribute materially to the success of this movement by his personal efforts.

The most perfect laws, however, do not execute themselves, and to reach, interest and instruct those persons whose duty it is to administer the laws or to make re-

ports under them, other circulars have been prepared, as follows:

No. 101, on "Practical Registration Methods," designed for the guidance of local registrars, describes the "Standard Certificate" and explains the necessity and use of the various details required concerning each death; outlines a simple system of filing and preserving the records and of making returns to state officials; gives the titles of the international classification and explains the relation of causes of death as reported to classification for statistical purposes. It also gives a long list of indefinite or unsatisfactory terms frequently used by physicians in reporting deaths, that should not be accepted in such shape, with explanatory notes showing what further information should be required in such cases. This circular will be sent to all registration officials.

No. 102, on "Relation of Physicians to Mortality Statistics," is issued for the use and benefit of physicians who have to make out certificates of death in compliance with registration laws, by acquainting them with the scope and requirements of the international classification, which has been adopted by all of the registration states and by most of the principal registration cities for the compilation of their mortality statistics. Such statistics, to be comparable, must be uniform; and to be valuable for scientific purposes they must be accurate. Their chief value is in the distribution of deaths by causes, but the cause of death must be properly stated before it can be properly classified. In this particular the entire value of the statistics depends solely on the lucidity and certainty with which the physicians supply the information.

In all statistics of deaths by causes there is much too large a proportion of unknown or indefinite items for which the physicians alone are directly responsible and which they alone can remedy.

It is probable that the defect in this particular is largely due to the fact that there has heretofore been no general and comprehensive plan to direct the attention of all physicians to the use of their certificates for statistical purposes, and to exhibit the necessities and requirements in this respect by explaining the classification used, and by specifying wherein certain returns are incomplete, indefinite, or unsatisfactory. This circular is designed to furnish such information. It will be sent to every physician in the country, and it is confidently expected that they will appreciate the importance of the matter—the purpose for which the circular is issued—and will manifest their appreciation by making their certificates conform to the suggestions noted, as far as possible.

It should be considered that the classification, in itself, is but a selection and arrangement of titles only, under which deaths reported in thousands of different ways must be compiled, and that the assignment of any death to the proper title requires a definite statement of the course of disease or the sequence of causes resulting in the death.

Following the detailed list and explanation of the titles is a list of indefinite and unsatisfactory terms very frequently used by physicians, with similar explanatory notes. The terms in this list can not be properly classified as given, and should never be used without further explanation.

It is not to be expected that an entirely definite and accurate statement of the cause of death can be made in

every case. There will undoubtedly be cases in which the exact cause can not be ascertained and others in which an accurate diagnosis is impossible, but an observance of the suggestions made in this circular will very largely reduce the number of cases that must necessarily be classed as unknown or ill defined.

What has been said above relates wholly to the statement of the cause of death, which is always furnished by the physician. But while this is the most important item, a complete return of any death requires a statement of other personal and statistical particulars concerning the death, and the blank certificate or return used for reporting deaths should be regarded as simply a specification, in convenient form, of the legal requirements in the case, all of which are intended to be observed.

The relation to and influence on the mortality from different diseases, of age, sex, color, conjugal condition, nativity, parent nativity and occupation, are of the utmost importance, and the preparation of uniform statistics for all registration states and cities requires that these items, and others necessary for record, shall be given just as fully and as accurately as the cause of death.

The making out of a certificate of death should not be considered a perfunctory matter. A complete and accurate certificate is required of physicians as a legal obligation, under the law—as a moral obligation to their clients for the protection of the rights and interests of those dependent on them—and as a professional obligation, to further the advancement of medical science. In the last respect it should be regarded as one of the highest duties of physicians, as scientific, professional observers, to record their experience in individual cases in accordance with some definite and general system so that the whole result of such professional observations may be properly classified, tabulated, analyzed and made to contribute in the greatest possible degree to the sum of knowledge essential to material progress in medical and sanitary science and public hygiene. In this respect registration is only an intermediary process—a means of adapting a mass of observed facts to systematic treatment and their reduction to numerical standards for analysis and comparison. There can be no doubt that if physicians will take this view of the subject, and act accordingly, they can make the statistics derived from their returns much more accurate and valuable.

Circular No. 103, on "Medical Education in Vital Statistics," gives a synopsis of the circulars previously described; explains the movement for the extension and improvement of registration data and statistics on uniform lines, and suggests to medical colleges and schools the desirability of initiating a course of instruction for students on registration methods and vital statistics. This circular has been sent to all medical colleges and schools.

All of the circulars and the "Manual," referred to above, relate to different phases of the same general plan. By means of them it is sought to convey to all persons interested a comprehensive knowledge of the details of the plan and of their relation to the same, in accordance with the ideas and opinions of the experienced registration officials and statisticians who have joined in the movement. The census office has cheerfully assumed the labor and expense of preparing, printing and distributing these documents and of the correspondence incidental thereto, so as to enable all those interested to

get together and to co-operate effectively in the movement for uniformity and accuracy.

The sole object of these circulars is to promote uniformity in laws, forms and methods, for mutual advantage, and to do so in accordance with the opinions expressed by authorized experts. The form of law given in Circular 100 is designed, primarily, to apply to states which do not now have effective laws on the subject, and the other circulars have been framed to assist in carrying out laws constructed on the lines indicated. Some of the provisions of law specified and of the suggestions made as to forms and methods might be adopted to advantage in all of the states and cities now classed as "registration," and it is hoped that whenever changes in existing laws, methods or forms become necessary or convenient they will all see the advantage of uniformity, and will adopt measures in harmony with those described.

The circulars on "Practical Registration Methods" and "Relation of Physicians to Mortality Statistics" are in many respects applicable, whatever the provisions of existing laws, forms of certificates, or methods of practice may be, but they will not be sent to any local registrars or physicians in registration states or cities until such action is approved by the local registration officials. So far as heard from, such officials have given their hearty approval and consent, and have expressed the opinion that the circulars will prove of great value in securing more complete and accurate returns.

The preceding statements describe the movement for the extension and improvement of the registration system and for increasing the value of the recorded data, principally with reference to their use for statistical purposes—representing the ultimate stage of mortality registration as here considered.

In the practical work of compiling and presenting such statistics there is also room for improvement in order to make them more complete, more accurate, and more thoroughly comparable. This is recognized and provided for in the general plan, as stated in the first part of this paper.

This subject was discussed at the last meeting of the Conference of State and Provincial Boards of Health of North America, and was covered in the resolution then adopted (q. v.), and will be taken up by the committees of the various associations which join in the movement for uniformity.

The general adoption of the "International Classification of Causes of Death" and the use of the "Manual" insures a much greater degree of accuracy and comparability in the statistics of deaths by causes, but there are other important factors the relation of which to the cause of death and to each other should be shown in a more uniform manner than at present. The action of the committee will, therefore, be directed toward formulating a series of uniform tables to be recommended for use in all annual reports and monthly or weekly bulletins published by registration state or city offices. To assist the committee in this direction the census office is now collecting and arranging all forms of statistical tables published in the local reports or bulletins.

It is the desire of the census office that its annual reports relating to mortality statistics in registration areas shall supply the greatest possible amount of information desired by all persons who make any practical use of the data. In order to develop ideas and opinions on this subject a series of tentative tables has been prepared,

showing what forms have been selected as a basis for consideration. These will be sent to all of the principal registration officials who compile statistics, committees of representative bodies, etc., and suggestions will be invited concerning changes or additions necessary to adapt them to the widest uses. Within the limitations imposed by the character of the data available, time and space in publication, the effort will be made to supply what is wanted.

The first annual report is now being compiled. It will, necessarily, form the model which subsequent annual reports will follow until the next census is taken in 1910, in which year also the international classification will be revised. This makes it particularly desirable that the ideas of officials and statisticians as to the contents of these reports be communicated promptly.

One observation which has a bearing on this matter and which also shows how improved methods in the census office have been of advantage to users of these statistics, may be permitted here; the census reports are generally distributed through the members of Congress, in the same way as other public documents, and heretofore senators and representatives have been notified that certain reports had been placed to their credit, leaving the public and persons interested to find out that the reports had been issued and to make application therefor to their member of Congress. Under this system many persons interested in particular reports did not discover that they had been published until it was too late to make use of them, and many other persons received copies of reports in which they had no particular interest.

When the "Twelfth Census Report on Vital Statistics" was published (July, 1902) it was determined to remedy this condition as far as possible, and as soon as the volumes were available for distribution a circular letter was prepared and sent to all registration officials, members of scientific societies and persons known to be interested, notifying them of the fact and advising them how the reports could be secured. This made it certain that all such persons would promptly receive the report—if they wanted it. And the demand has been such that a third edition is now being printed.

In the circular letter referred to, announcing the publication of the report, criticism and suggestions were invited, and this statement was included: "Under the permanent census organization, annual reports will be made for registration areas, and I will be particularly obliged for practical suggestions as to forms of tables, etc., that you think should be included in order to make the statistics of the greatest value to all concerned."

Many complimentary acknowledgments were received, but no "practical suggestions as to forms of tables" for the annual reports have yet come to hand.

As a general thing, statisticians compiling such reports are anxious to give the public what it wants, when it is possible for them to ascertain what is wanted.

If the movement described in this paper meets with the approval of the Association, it is hoped that a committee will be appointed to act in co-operation with the committees of other bodies. Its assistance will be most valuable and most welcome.

DISCUSSION.

DR. SENECA EGBERT, Philadelphia—I think the duties of all men in my profession have been increased since the beginning of this work of which Mr. King so interestingly speaks. We ought to do all we can to further this work of

registration and to increase the registration area. The great difficulty is going to be in the rural districts. We have a large number of our cities fairly well registered, in comparison with our rural districts. If I am not mistaken, only 14 per cent. of our rural population have anything like well-kept statistics; and that is mainly in the New England states. As to other cities, a much larger proportion have fairly good registration, although the methods of collecting and recording statistics have not been at all uniform; and, as we see to-day, the labor devolving on the Census Bureau has been materially increased by this irregularity and lack of uniformity in registration. Now, the Census Bureau is sending to every physician in the country information about the international classification, and they are also urging our various registering officers to adopt the necessary forms and data, so that eventually there shall be no difficulty at all in securing accurate returns. In Philadelphia we average from 400 to 450 deaths a week and, with a properly instructed clerical force, we should have no difficulty at all in getting proper returns, according to the forms agreed on, as to practically every death. For years, every month that I was at all dilatory in the matter, I have had a man come to my office to obtain my birth reports for the preceding month. Now, this could be done just as easily with regard to the reports of deaths. If such an employe were to call on physicians with the proper blanks and explain the importance of the matter it would not be very long before we would be getting an almost perfect return of deaths in the city. But this can not be done so readily in the country, and it will be more difficult to obtain the data than in the cities. I do not think the average physician to-day is impressed with the importance of this matter as he should be. In regard to my own instructions to students, I have not properly appreciated it, but hope to do better hereafter. Nor do I think that the sending out of a letter or circular to every physician of which we have been told to-day is going to be sufficient. I think it is going to be a matter for the state municipal and governmental authorities to take up and drill into the profession at large, until we all come to a thorough appreciation of it; and I think few things will help to educate a thinking man as to the importance of this matter so much as the data given in the last Census Reports. It was a revelation to me to see how progressive science has cut down our death rate in the last decade. It gives me more hope in my personal work than I ever had before. I think it would be a good thing if some of the most striking parts of these data could be condensed and sent to every professional man in the country, along with these circulars of information and forms, to impress on him the value of the work being done, and how much greater that value would be if he did his share. The physicians of Philadelphia were recently notified not to use the old-fashioned death certificates, and were requested to make our reports according to the new forms, which call for the same data as the standard certificate of death, though not exactly like it in detail. That was within the last three months, I think. Our municipality has practically adopted the suggestion of Mr. King.

DR. CRESSY L. WILBUR, Lansing, Mich.—Did Philadelphia do anything with reference to international classification?

DR. EGBERT—I understand that the city will soon endeavor to adopt the international classification of causes of death.

DR. C. L. WILBUR—Philadelphia is probably the oldest city in the country to use the alphabetical system, and I was in hopes that it would join with Boston, Washington and other cities in using the international classification. We are using the standard blank in Michigan. It is adopted by law, I think, in Vermont, and it is used in Indiana, New York and Colorado. I like it better than our old form. As to the country districts, I think in Michigan we have reports from the township clerks of every township in the state. Some of them in the upper peninsula do not average five inhabitants to the square mile; nevertheless, they all report either that no deaths have occurred, or give the names of those who died, sending in the detailed certificates. We never have a

district delinquent for more than two consecutive months. If they do not make reports promptly we get after them; and they all take pains—as far as they are able (some of them, of course, not being educated men medically)—to send in the returns in correct form. If any items of special importance are omitted we mark a red cross at the place and then send a duplicate certificate, with a cross at the corresponding place, to the registrar, with a circular letter explaining the uses of the information specially desired, pointing out the items omitted, and asking him to see the undertaker, or whoever had charge of the body, get the data that was omitted, and send it on with the next report. We also call his attention to the fact that he should not accept an imperfect report or certificate, and that if he does not supply the missing items, or give good reasons why they can not be secured, deduction will be made from his compensation as provided by law; that is, 25 cents for each certificate. We also write the physicians when necessary. When one sends in a return of death from, say heart failure, or cancer, without specifying the part of the body, we write him a personal letter telling him why we need the information, and that his return is incomplete. We are also going to take the pamphlet that the Census Bureau distributes, print a short list of the most unsatisfactory returns, mark them with an index finger, and send them to all these physicians; so that they will always have their attention more or less directed to the fact. The registrars will also be instructed to refuse to accept (as they have done in a number of cases) grossly unsatisfactory returns such as "heart failure." Unfortunately, our registrars are changed often. If we could only keep them in office for longer terms we could accomplish better results. This pamphlet I regard as one of the most important actions ever taken for the improvement of registration. We send it out to all our physicians, with a circular commending it to them. We also sent a circular to all our registrars, with a special pamphlet of that sort. I believe that by referring the physicians from time to time to this pamphlet, and with the co-operation of the registrars, we will work out great improvement in the accuracy of our statistics. It seems difficult for some of them to comprehend what ought to be said and what ought not to; and sometimes they leave out the main thing.

DR. EGBERT—Dr. Wilbur has shown the essence of the whole matter. There is a head in his state that follows up every man in the state. Unfortunately, however, our registrars are too apt to be changed about for political reasons. For many years I had considerable intercourse with reference to this matter with our former registrar, who was heartily interested in this subject. He went into it almost as Dr. Wilbur has gone into it here, because it was of much real importance to him; and he was always pleased to enter into the details of the subject and give any one whatever information he could. But he was deposed by a change in the political administration, and the city lost a valuable servant. As for Philadelphia, we have recently had a bill passed providing for a Department of Public Health and Charities, to be in charge of a physician who will appreciate the importance of the work. I would like to ask Dr. Wilbur to give us roughly the cost of maintaining the system in his state.

DR. WILBUR—The compensation is 25 cents per certificate of death, which is paid by the county, and is the only fee connected with the system. We exempt from that payment cities of 10,000 inhabitants and over, where the salary of the clerk is supposed to compensate him for the service. We have no birth certificates, though we have had a bill reported by the committee on state affairs of the legislature that provides for the registration of births. It was reported unanimously by the committee, but I do not know how much further it will go. It provides for a certificate of birth similar to that used in New York. There will be a fee of 15 cents to the registrar and 25 cents to the physician, making a total of 40 cents. This may be thought a little high by the legislature; but if they cut it down too much I fear that we shall not obtain satisfactory results. If we pass this law

we may not get all the births, but I think we shall register about 95 per cent. of them.

DR. J. N. HURTY, Indianapolis—In the collection of mortality statistics in Indiana we follow pretty closely the system in use in Michigan; and we pursue the same method of keeping each individual certificate that Dr. Wilbur has described. After three years of this work we have no difficulty now in getting the number of deaths, ages, sexes, etc. The great trouble is to learn the correct cause of death. We have thought a great deal of how this is to be remedied. In many instances the physicians are not well enough educated to know what the cause of death is; and in other instances, despite their education, they do not know. So we thought for a while that it would be better for them to write in the word "unknown" when they did not know. We subsequently changed that opinion, however, when we began to get in numbers of certificates showing that nobody knew what the cause of death was, making the confusion worse than it was before. We have had many examples of that character. A state senator died. The cause of his death was declared to have been grip, and the immediate cause hemorrhage. That was the report of a practicing physician who was also a member of the legislature; but we subsequently found, on examining the corpse and taking the testimony of the doctor himself and of the embalmer who prepared the remains, that it was black smallpox, beyond question. Now, when we have such gross errors what are we going to do? We know we are getting the number of deaths, with locations, ages, sexes, etc., but we realize that our returns are woefully deficient as to the causes of death. We see no way out of the dilemma except through the better education of physicians. The teachers of hygiene, as Dr. Egbert has said, must dwell more particularly than before on this matter. They must pound it in and let the oncoming generation know how very important it is to be able to state definitely and exactly the chief and the immediate causes of the deaths that occur in their future practice. Now, when we receive a certificate that is not full and complete we do as Dr. Wilbur related. We do not send the original back, because we would have trouble in recovering it, but we send a duplicate printed in different ink; and we never let up until the physician or officer sends us an answer. We have complete control over our officers, because they can be discharged at any time for not performing their duty. They are on salary, and receive no fees whatever for collecting statistics. Out of our 675 reporting stations, we do not have an average of 12 that fail us each month. We get after them when they are delinquent, and eventually get a report from them before the month is half over. They must report by the fifth of each month, whether they have any deaths in their districts or not. I want to say something about Mr. King's sample law, which I read with some care. It is a most admirable law as a whole. I note he provides penalties for the interment of the dead without a permit, etc. The penalty is a fine of from \$5 to \$50 on the undertaker or other person who may bury the remains. I do not think that clause is going to make the returns even approximately perfect. A widow's child may die away out in the country. The neighbors come in and lay the body out, some one makes a coffin out of a pine box, and the child is buried without a permit. In such a case you could never enforce the penalty in any justice of the peace's court in the country. In the Indiana law we have a clause that usually brings a report. It provides that in the event of a burial without a permit the coroner must disinter the remains, hold an inquest, secure all possible data, enter the same on the blanks of the board of health, and report the result to the health officer having jurisdiction. There is also a fine of \$10 to \$100 on any undertaker or other person burying a body without a permit. That can readily be enforced against the undertaker, but not so in the instance I related; though the other clause can be and is enforced. We have had trouble in only a few instances, so severe is the penalty. Let it be done in one county, and the other counties within a radius of five will hear of it and learn the lesson. Then, the coroner is after a fee, and is

likewise in a position where he can plead that he must disinter, that he has no help for it under the law. They get the body out of the ground, summon the physicians who failed to make the report, summon all parties concerned; and after one experience that community never has any more burials without permits. However, as I have said, it is the cause of death that we have trouble with, and I am satisfied we will have that trouble for many years to come.

DR. J. S. FULTON, Baltimore—Many sanitarians dread the difficulties of rural registration. That fear seems to me somewhat exaggerated. What is wanting is a due appreciation on the part of cities and close communities of their dependence, for their own sanitary safety, on the sanitation of rural districts. In Pennsylvania probably 75 per cent. of the entire population are living under registration laws, more or less effective. It is municipal registration, however, leaving the rural districts wholly out of the mortality account. There is an ancient registration law still on the statute books of that state, but useless for want of a burial permit provision. Now, suppose the cities of Pennsylvania should realize that they owe their bad eminence in typhoid mortality to the rural districts. Suppose that Pittsburg and Allegheny, for instance, the worst typhoid cities in their latitude in 1900, should have a strong suspicion that their sources of infection lie in the perennial typhoid of the unregistered adjacent rural districts, could the villagers and rustics possibly defeat a bill which proposed to compel every part of the state to render monthly a full account of its mortality? This consideration would prevail, I fancy, even in Philadelphia, a city which is notorious in its class, but which is in typhoid mortality far exceeded by a dozen lesser cities in the same state. When the cities discover that they draw on the country districts for their supplies of typhoid and intestinal disorders as regularly as for their supplies of food and drink, the demand for registration of mortality in rural districts will be irresistible. Nor do I believe that rural communities object seriously to registration. In Michigan the registration law is not mandatory in areas of less population than 15 per square mile, but such areas are registered nevertheless, and are registered because they desire it. If all the registration data now regularly collected in such states as Pennsylvania and New York were assembled and properly displayed, I believe that 75 per cent. of the population would be found included, and that the advantages of registration would appeal effectively to a majority of the remaining 25 per cent. Such instances as have been cited by Dr. Hurty will inevitably arise. They have no numerical importance. They are easily met by administrative tact, and they need have no influence on the reliability of mortality returns in general. Another point about rural registration is that it is a very good check on municipal registration. Municipal registration is subject to many abuses that would be controlled if it were necessary to record every death somewhere, either where it occurred or at the true residence of the person who has died.

DR. CRESSY L. WILBUR—The question of density of population is most important in drafting the registration law of a state. If you do not have a sufficient supply of local registrars, so people can easily get to the local office, there will be an explosion. In some parts of Illinois, especially the southwestern part, which is sparsely settled, the present law, which was passed in 1890, has proved very obnoxious to the people. The law provides for only six registrars in the counties, in addition to the county clerk. This has proved to be the cause of so much trouble that there are now two or three bills pending to repeal the law for the whole state. The average population to the registrar should not be much more than 500, and the distance should not be over six miles, so that the people can easily get permits; and in that way we will have no violations of the law. I presume this will have to be taken into consideration in Pennsylvania, of which some parts are sparsely settled. It can be done in sparsely settled as well as in well-settled communities.

DR. H. M. BRACKEN, Minneapolis—We have found in Minnesota that it is not much harder to get statistics from the

rural districts than from the small urban communities. We have registrars for each township, and many of them make good returns. Minnesota, unfortunately, is not classed with the registration states, although we have laws meant to be complete and thorough. Last winter we asked for a law requiring a burial permit in all cases of death, but the committee on public health was composed of men from the country, and they objected, using the same argument that Dr. Hurty mentioned, with reference to neighbors helping to bury the dead, without the usual formula of undertaker.

THE LIMITATIONS IN THE USE OF ACONITE AND VERATRUM VIRIDE.*

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Too much has been written on the possibilities or probabilities of the therapeutic value of drugs and not enough regarding the limitations of their use. It is only within a comparatively short time that physicians have relied on their knowledge of the pharmacodynamics, rather than on tradition based on empiricism, to guide them in their use of drugs. Like the rest of mankind, physicians are prone to follow the calf paths of tradition; and the works on therapeutics are full of references to the success of remedies used by individuals of repute, regardless of the known physiologic action of the drugs in question.

A few years ago I was much impressed by a remark of our eminent therapist, Dr. John V. Shoemaker, when he said that he had written so much on the therapeutic value of drugs and had taken so much for granted on hearsay evidence that he felt it a duty he owed the profession to write a book on the limitations of the use of drugs.

The size of our pharmacopeia and of our text-books on materia medica and therapeutics seems to be proof that we know too little about a great many drugs and not enough about a few. I quote from a recognized authority regarding the uses of aconite:

Dr. Murchison regards aconite as a remedy of great value for reducing the pulse and temperature in fever, and especially in the pyrexia resulting from inflammation. . . .

Dr. Bomford bears witness to the value of aconite in the remittent fevers of India. . . .

Dr. W. Dobie details four cases of pneumonia in which aconite, in small, frequently repeated doses, apparently cut short the attack. . . .

In puerperal fever, Dr. Playfair (Vol. II, p. 328) regards aconite in minute doses as a most valuable remedy. . . .

In tonsillitis, acute sore throat and in acute catarrh of children, Dr. Ringer strongly recommends the tincture. . . .

In acute rheumatism, aconite at one time was held in high esteem. . . . In rheumatic pains occurring in gouty subjects, Professor Graves has found it very serviceable. The same remark applies to lumbago. . . .

In neuralgia, aconite is a remedy of great value, but its use appears to be restricted mainly to those cases in which all signs of active disease are absent or have been subdued by other means. . . .

In sciatica, Dr. Fuller concludes that it proves a valuable and efficient remedy in many obstinate forms of the disease. . . .

Toothache is sometimes speedily cured by rubbing the gums with a few drops of the tincture. . . .

In tetanus the use of aconite in large and repeated doses was first proposed by Mr. De Morgan, who relates several cases illustrative of its efficacy. . . .

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

In diseases of the heart, in which the chief indication is to diminish vascular excitement or irritability of that organ, aconite proves in the highest degree serviceable. . . . Even in pericarditis, when the heart throbs violently and thus produces extreme pain, aconite, according to Dr. Ringer, will quiet the heart and speedily ease the pain. . . .

In erysipelas, aconite was a favorite remedy of Liston. . . . To painful sprains and bruises and chronic arthritic swellings, lin. aconiti, locally applied, often affords speedy relief. . . .

In amenorrhea, Dr. Copeland prescribed the extract with decided benefit; and Dr. Ringer states that in sudden suspension of the menses, as from a cold, it may be employed with advantage; he likewise states that the acute stages of gonorrhea may be well treated with gtt. j. of the tincture every hour, and that the same treatment will often remove chordee. For the relief of severe uterine pains lin. aconiti externally applied occasionally affords relief when other remedies fail. . . .

Thus you see the novice might imagine that he was fairly well equipped to deal with nearly all human ills with this single drug. Is it strange, then, that with such brilliant promises, and after disappointments that must surely come, he should become a skeptic in medicine, and declare that he does not believe in the use of drugs?

Aconite and veratrum viride are old drugs and came into use when disease was little understood, when fevers were regarded as diseases and not mere symptoms of disease. The high temperature and rapid pulse were the abnormal conditions to be remedied, and it appeared perfectly rational to employ aconite and veratrum viride. They headed the list of drugs employed in the treatment of sthenic fevers, such as pneumonia, and it was thought that a great stride had been made in medicine in the supplanting of blood letting by the internal use of aconite and veratrum viride. And it was a move in the right direction, not because there was any real advantage in depressing the heart by the use of aconite, or of depressing it by venesection, but because it called the attention of the profession to the fact that it was necessary to conserve the energy of the patient in order that recovery might be insured. While, since the days of antiseptics, we have sometimes wandered away from that truth and have destroyed our patients in our attempts to exterminate microbes, we have always returned; and to-day it remains one of the fundamental principles in the practice of therapeutics.

PHYSIOLOGIC ACTION.

I know of no recent work having been done with aconite or veratrum viride and will, therefore, not go into the physiologic action any more than to summarize what is already well known.

The primary action is stimulation of the peripheral nerve endings; causing a tingling sensation, produced either locally or systemically; stimulation of the vasomotor mechanism, resulting in arterial constriction and slight diuretic effect; powerful stimulation of the respiratory center.

The secondary action is paralysis of the over-stimulated peripheral nerves, causing anesthesia; pronounced depression of the heart, which is augmented by the effect on the vagus; lowering of the blood pressure; and reduction of temperature, which is due at least partly to increased evaporation from its diaphoretic action.

The promptness of the secondary effect is dependent on the size and concentration of the doses given. A very little aconitin is eliminated, as such, from the system, the greater portion being decomposed or burnt up in the system.

The action of veratrum viride is so similar that it does not call for a separate recital.

The indications, then, for the use of these drugs are: To relieve pain, reduce temperature, promote diaphoresis, slow the heart and reduce blood pressure.

As the analgesic properties of the aconite are not manifest until after the appearance of the secondary or toxic symptom of the drug, it is a dangerous remedy to use, and we have such remedies as phenacetin, which is more powerful and less dangerous. As a diaphoretic it does not compare with Dover's powders or pilocarpin. As an agent to slow the heart it is far inferior to digitalis, strophanthus or spartein, as they slow the heart by lengthening the diastole, thus favoring the recuperation of that organ.

Blood letting is probably a more efficient remedy for the lowering of arterial tension than either aconite or veratrum viride, as by this process the toxins are diluted and the volume of blood may be readily restored by saline transfusions.

Finally, I do not believe that we are justified, with our present knowledge of the etiology of disease, to apply remedies solely for the reduction of fever. If the cause of the fever is not known or can not be directly attacked, our efforts should be directed toward supporting the patient, the stimulation of those cells which are potent in the production of antitoxins, etc., or the lessening of oxidation and waste by lowering metabolism; and then if it becomes necessary to reduce the temperature *per se*, hydrotherapy has proven itself to be a safe and efficient agent.

In conclusion, I would say that I do not wish to be understood as saying that aconite and veratrum viride are absolutely useless or prohibitively dangerous, but that there are other remedies which may be used with greater safety and with equally good or better effect.

Should one wish to use aconite or veratrum viride, however, for the primary action, it should be given in exceedingly small doses, well diluted and repeated at short intervals.

DISCUSSION.

DR. F. R. WEBER, Milwaukee, Wis.—There are portions of the United States in which these two drugs are used, but in the northern part of the country they are hardly known in the shops. They are depressants, and that is their limitation. To-day we go back and study the heart more than the old physician used to do—we study the heart as a muscular organ. That grand old physician of Dublin who first introduced the knowledge of the heart muscle as an organ of itself is a man we must consider to-day. The acute diseases, such as typhoid and pneumonia and septicemia, in which it takes weeks and months for the patient to recover, are the diseases in which aconite used to kill. We have toxins which have their effect primarily on the heart muscle; we have degeneration going on which is peculiar to the heart muscle, a degeneration that extends beyond the muscular fiber and goes into the intracellular tissue; it is an interstitial inflammation of the heart which weakens the patient to such an extent several weeks after typhoid or pneumonia that we have to look very carefully to the conservation of the heart. The infectious diseases have a tendency to weaken the heart in the third week of convalescence. If, then, we weaken the heart during any period of the disease what shall become of the heart during convalescence? I think we do harm, not in the stage of action, but when the heart needs all of its recuperative power.

DR. H. A. MOODY, Mobile, Ala.—I am surprised to hear the action of veratrum viride and of aconite described as identical. In the southern part of the United States veratrum is more popular than anywhere else, and we consider that

there is an immense difference between the action of veratrum and aconite. I am tempted to ask the question whether any one here can tell me the fatal dose of veratrum viride. Can any one here point to the record of a death from that so-called poison? Do any of the text-books mention the fatal dose or tell of a death? There may be such, but it has escaped my attention. We have in veratrum viride a depressant which can be given in small doses of two or three drops until the number of pulsations and the force of the heart are reduced and the patient is relaxed and in perspiration. On the other hand, it is a demonstrated fact that you can administer twenty or thirty drops of the same drug hypodermically, and repeat in an hour or two in cases of puerperal eclampsia and yet not poison the patient. That is on record. You can handle veratrum that way, and, therefore, I do not think you should bring it under the same indictment as aconite. I do not consider it the most desirable form of treatment in wasting diseases, and only rise to insist that there shall be a difference drawn between the two drugs.

DR. W. J. ROBINSON, New York—While aconite and veratrum viride are not used as much as formerly, they are very valuable drugs. For instance, in the first stage of sthenic pneumonia there is nothing to equal a few doses of aconite. I make the same objection as does Dr. Moody to classing them together. Aconite is a very dangerous drug, while veratrum has nothing on record against it. In large doses it produces emesis, but that is the worst it does. The value of veratrum in puerperal eclampsia can not be overestimated. I have collected a very large number of cases, and the best results are obtained by giving veratrum in large doses, and this without any bad effects. This question was brought up last year and the same objection was made that these two drugs should not be classed in the same category. While both are cardiac depressants, veratrum is a much safer drug. Gilardoni's clinical and experimental reports show that in veratrum viride we have the safest drug when we wish to reduce arterial tension and keep it reduced for a considerable length of time.

DR. W. W. TOMPKINS, Charleston, W. Va.—I am somewhat of a "middle-of-the-road" man on this particular question. I think, however, that in a large measure we allow our prejudices to influence us in the use of drugs. When I was a student my materia medica teacher did not like aconite because it was used by a homeopath. I believe that aconite is a depressant of the respiratory center more than of the heart. However, it is a mistake to prescribe it in small quantities for any length of time, though it is not my observation that aconite exercises influence for any length of time. I have not looked into the statistics of the mischief done by these two drugs, but aconite poisoning is not infrequent. In the Virginia Lunatic Asylum at Stanton some 12 or 15 patients were poisoned by aconite and died, and it is still an unsolved mystery. On the other hand, I believe each of these drugs has its limitations and its uses. I do not know from experience much about veratrum; it seems to be less frequently used than aconite. I do not know of any fatal cases from its administration. I know those who use it often speak in extravagant praise of its efficacy in certain diseases. I hope the remarks made here will result in a more thorough study of the drug.

DR. C. S. CHAMBERLIN, Cincinnati—Dr. A. B. Isham¹ has reported a large number of cases of eclampsia, pneumococcus infection, convulsions, uremia, carbolic acid poisoning, etc., in which he used veratrum viride as an eliminant hypodermically and in very large doses. If emesis or relaxation did not occur within 15 minutes, the dose was repeated, sometimes a second time. Veratrum viride in large doses produces copious diuresis, emesis and catharsis.

DR. G. D. KAHLO, Indianapolis—It is my understanding that the essayist did not intend to classify the two drugs as having identical effects. In my part of the country both drugs are used to a limited extent, but they have been recom-

mended too indiscriminately. We find, too, that the revised authorities recommend them in smaller doses.

DR. HUGH N. LEAVELL, Louisville, Ky.—Taking into consideration the manner in which Dr. Hill presented this paper, it is not surprising to know that the homeopaths selected this remedy as one on which to build a reputation. I am glad Dr. Hill presented the matter in just that way: "The limitations in the use of" the drugs. I believe we should specialize as much as possible and try to draw a line in each particular case and administer the drug to meet the indications as they arise, taking into consideration any idiosyncrasy shown by the patient. The effect on the blood pressure is well shown, and here we find the best use for aconite and here we get the best results. We must take into consideration the probable absorptive power of the epithelium to which it is applied and we must not lose sight of the fact that it is a very toxic drug and can produce death by its toxic effect on the heart muscle.

DR. SOLOMON SOLIS-COHEN, Philadelphia—When Bartholow came to Philadelphia, twenty-odd years ago, he was very much laughed at because he advocated the use of nitroglycerin; but nitroglycerin has saved a great many lives since Bartholow began to force it on the attention of the profession. There certainly must be some foundation for the general advocacy of veratrum. I agree with Dr. Robinson that there is a time, in the very beginning of sthenic pneumonia, when aconite will do more good than anything else in the pharmacopeia, but we do not often see cases at that time. From the reports quoted by the essayist it would appear that aconite is to be used in the beginning and also at any other time. It is just such careless statements, which he properly rebukes, that mislead us and shock our faith. A routine use I have for aconite—I have not seen it mentioned in the text-books—is in the treatment of many cases of mitral stenosis, in which the heart is pumping tumultuously, trying its best to push the blood through a narrow mitral opening, and yet the effort is ineffectual, the pulse being thin and weak. In such cases it is well to depress the overexalted function to the level of the impaired function in an effort to re-establish physiologic equilibrium. With an overacting heart and a weak and thready pulse, aconite given in very small and successively diminishing doses, continued over a long period of time, has, in my observation, done much good. I have in mind two boys who came under my care at the same time—about twelve years ago. They are now grown, active men, students and teachers. They are not conscious that their hearts are impaired, and for many years have taken no medicine. It is true that iron was administered in conjunction with and after the aconite, and that their general hygiene was regulated.

DR. W. B. HILL—I call attention to the fact that I changed the title of the paper purposely. The subject was chosen for me, otherwise I would have preferred to take one drug only. I did not regard aconite and veratrum viride as dangerous from the viewpoint of acute poisoning, but in just the conditions which Dr. Weber brought out: that the heart is ultimately poisoned, not by the aconite or the veratrum itself, but by the lack of proper blood pressure which is the life of the heart, and therefore I say that those drugs which reduce the blood pressure in disease unnecessarily, while they may have no immediate bad result, must ultimately bring about a diseased condition to a greater or less extent. I did not intend to take up all the uses of these drugs, as that was not within the scope of the paper. The use of veratrum in eclampsia has been spoken of and recommended, but one so doing gave the physiologic reasons for it. The criticism is, although you use it successfully, why did you use it? In eclampsia it is used because of its power to relax and lower the blood pressure. In this connection I will call your attention to pilocarpin which, in addition to lowering blood pressure, causes a greater elimination of retained products than any other remedy. The only trouble with the use of pilocarpin is that it is not used in sufficiently large doses, and yet if a death occurs after the use of pilocarpin the death is attributed

1. "Veratrum Viride as an Antitoxic," Medical News, Jan. 10, 1903.

to pilocarpin when, in fact, the death followed because not enough pilocarpin was used. I was taught to give Norwood's tincture in pneumonia because there was little danger of acute poisoning. I got over that. Opium will relieve the patient by producing a diaphoresis, yet we do not always give opium simply because we want to render the patient more comfortable. So I believe that aconite in the beginning of pneumonia, where the heart has more than double its burden, is contraindicated because of the ultimate effect of the drug on the heart.

NON-TUBERCULAR HEMORRHAGES OF THE AIR PASSAGES.*

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INDIANAPOLIS.

The great vascularity of the mucosa lining the respiratory tract, with its delicate epithelial coverings and its close sympathetic connections through its vasomotor system with the rest of the organism, renders it exceedingly vulnerable to atmospheric conditions and to blood changes and blood pressure from within the organism. The blood vessels supplying this great stretch of mucous membrane are affected by every atmospheric condition, such as thermic and barometric changes, parasitic irritations, dusts and pollens, noxious gases, and all the filth that saturates the atmosphere from many sources. All these forms of irritation disturbing the normal functions of the membrane produce hyperemias, destroy the epithelial coverings and set up morbid processes which weaken the vessel walls and are thus important etiologic factors in the production of hemorrhage. In addition to these atmospheric causes from without, we have the various forms of traumatism to which the anatomic structure of the respiratory tract is exposed, such as concussions, contusions, fractures, dislocations and the many kinds of surgical procedure for the correction of abnormalities, deformities, removal of growths and mechanical irritation of foreign bodies lodged in the respiratory tract. Severe hemorrhages which often result from surgical operations are usually due to some constitutional diathesis or to some anomaly of the circulation in the part operated on.

CONSTITUTIONAL CAUSES OF HEMORRHAGE.

On account of the close reflex relationship between the upper respiratory tract and the pelvic organs it has often been observed that any changes taking place in the latter produce vasomotor changes in the nose and throat. The rapid development of the larynx at puberty is always attended by marked hyperemia. The erectile tissues of the nose show marked engorgement at this period and are especially prone to hemorrhage. Since J. McKenzie, Hack and others have called attention to the close blood relationship of these parts in their physiologic and pathologic changes, we are enabled to treat many cases of hyperemia of the nose and throat with a greater degree of success.

Fleiss has shown by an extensive series of investigations in the gynecologic clinic of the University of Berlin that there are certain points on the anterior extremity of the middle and inferior turbinate bodies, designated by him the "genital areas," through which influence can be exercised in pathologic conditions of the female pelvic

organs. By cocaineizing the genital areas the pains which accompany or follow the menstrual flow can be relieved, and labor pains can be reduced to a minimum, while by cauterizing these areas a permanent cure of many cases of dysmenorrhea may be achieved.

The writer has had an opportunity of observing in several cases the effect on dysmenorrhea of treatment administered through the genital areas of the turbinates, and also two cases of vicarious hemorrhage, one from the erectile tissues of the nose and the other from the larynx, as the result of sudden arrest of the menstrual flow. There are many interesting cases reported of vicarious hemorrhage from the nose and throat in the literature of the subject. The case of Alibert, in which sudden stoppage of the menstrual flow caused a fatal hemorrhage from the nose, and the case of Kussmaul, quoted by Bosworth, in which there was a periodical nasal hemorrhage in a woman with total absence of uterus; also one by Fricher of a girl of 19 who had never menstruated, but who had violent hemorrhages from the nose at regular intervals of six weeks, which finally proved fatal.

There are a few reports of cases of vicarious hemorrhage due to the arrest of long existing bleeding from rectal hemorrhoids, and from sudden checking of the functions of skin and the cure of certain skin diseases. Bleeding from the nose or larynx during pregnancy is a not uncommon occurrence, probably due to the pressure of the uterus on the large abdominal veins. All of the diseases of the liver, spleen, kidneys, heart and brain which obstruct the return flow of the blood, produce engorgement in the respiratory tract and tend to produce hemorrhage. "We often see persistent hemorrhage from the nose and larynx in cirrhosis of the liver and in renal disease, and it is often associated with the cardiac disease in the venous stases due to failure of compensation in mitral diseases and in aortic insufficiency." (Friedreichs.)

Edgren says that hemorrhages of the air passages are frequent in the presclerotic period and, in the elderly, point to incipient arteriosclerosis. In these cases the bleeding comes on without apparent cause, or it may follow any violent emotion. Any increase of blood pressure is liable to cause rupture of the weakened vessel walls in this disease. The association between the veins of the interior of the skull and the venous sinuses of the nose is so intimate that all the congested states of the cerebrum and meninges are liable to produce epistaxis. Tracheal hemorrhages are comparatively rare. We have an occasional case of fatal hemorrhage from this source due to rupture of an aneurism of the aorta into the trachea. This is due to ulcerations between the rings from pressure of the aneurismal sac. Five cases of tracheal hemorrhage following influenza are reported by Donelan.¹

HEMORRHAGE DUE TO THE ACUTE FEBRILE DISEASES AND HEMORRHAGIC DIATHESIS.

Hemorrhages occur as a premonitory symptom or as a concomitant of many of the epidemic fevers, such as typhoid and remittent fever, scurvy, diphtheria and the exanthemata. The cause of the hemorrhages in these fevers is yet obscure. They usually occur from the respiratory tract in the initial stages of these affections, and it is the accepted opinion among pathologists that they are due to yet undiscovered changes in the blood and blood vessels of toxic origin.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. Jour. of Laryngol. and Otol., January, 1901.

Nichols claims that in some cases the appearance of hemorrhage corresponds to secondary infections and in others to the cachectic state to which patients are reduced. In the early stages of these affections we find the membrane of the nose and throat intensely hyperemic, and in the later stages a breaking down of the epithelium and vessel walls, with small ulcerations and extravasations of blood.

The hemorrhages of typhoid fever, according to Friedreich, show a predilection for the septum, but may occur in other parts of the mucous membrane. Superficial ulcerations causing hemorrhages are very common in certain regions of the pharynx and larynx. They are commonly found on the faucial pillars, the free border or laryngeal surface of the epiglottis, the aryepiglottic folds, and often occur below the glottis. They are rarely seen on the vocal cords.

Millet observed: "Epistaxis associated with malarial infections is intermittent or periodical, and may be controlled by quinin."

Of all the predisposing causes of hemorrhages hemophilia occupies the first place. It is the "bête noire" of the laryngologist. There are but few of the operators in this department of surgery who have not had sad experiences with this class of patients known as "bleeders." Reports of fatal hemorrhages from excision of the tonsils and adenoids in patients unsuspected of having this predisposition come up before almost every meeting of laryngologists.

The cause of this diathesis is yet undetermined. Statistics show that it has a decided preference to lay its mark on the males. Among the "bleeder" families the females are usually exempt. Among the spontaneous hemorrhages due to hemophilia, epistaxis is by far the most common form. According to one authority, among 236 hemorrhages of various kinds 122 were from the nose, and Eichhorst says: "These hemorrhages are usually preceded by perversion of the senses of taste and smell. One patient could smell, another taste, the approach of his hemorrhage." Ecchymosis and submucous hemorrhages in the larynx, as well as ulcerations of the pharynx and larynx, are very common in purpura hemorrhagica.

SYPHILIS AS A CAUSE OF HEMORRHAGES.

Syphilis is not regarded by most of the authorities on the subject as a frequent cause of hemorrhage. In the primary and secondary stages hemorrhages are very rare. In the tertiary and hereditary forms they are much more frequent and are often very severe. It would seem that syphilis would play a most important rôle in the production of hemorrhage from the respiratory tract on account of its predilection for these parts and the destructive changes which are so often wrought here by this disease. It seems that the ulcerative processes rarely invade the blood vessels in syphilis.

LOCAL CAUSES.

Among the local causes of epistaxis, deflections of the septum should occupy first place. The irregularities on the deformed septum expose the superficial capillaries to many forms of irritants in the air current which denude the vessel walls and thus bring about more or less violent attacks of hemorrhage (Bosworth).

The various forms of neoplasms of the nose, pharynx and larynx, such as fibroma, sarcoma and carcinoma, are often the source of most alarming and difficult hemorrhages to control.

THE MOST FREQUENT LOCATIONS.

"Since the time of Valsalva, a point on the anterior portion of the cartilaginous septum has been known as the most common site of hemorrhage from the nose." Bleeding from this point is rarely dangerous, and is usually easy to control. In hemophilia and purpura the bleeding comes from various points on the mucous membrane. In profuse hemorrhage the bleeding point is difficult, and sometimes impossible, to discover. The ethmoidal veins are often the source of violent hemorrhage, probably on account of their close connection with the cerebral circulation. Other points on the posterior ends of the lower turbinates, the venous plexus in the vault of the pharynx and the venous plexus at the base of the tongue, are frequent seats of hemorrhage. Bleeding from the larynx is comparatively rare, and is not often of a dangerous character from the loss of blood. "Laryngeal hemorrhages are dangerous only when they are beneath the mucous membrane, thus producing hemorrhagic edema and impending asphyxia." They may easily be mistaken for hemorrhage from the lungs or hematemesis.

PROGNOSIS.

Bleeding from the nose is rarely fatal. In many cases it seems to be Nature's method of relieving overdistended blood vessels. There is no doubt that many cases of cerebral apoplexy are averted by nasal hemorrhage, and it is quite common for some patients to experience immediate relief from a severe congestive headache by a free nose bleed. Spontaneous hemorrhages are more dangerous in young children and the aged on account of the friability of the vessel walls. Fatal hemorrhages of the upper respiratory tract are reported in children under a month old from hereditary syphilis. "Swoboda reports four fatal cases of nurslings from hemorrhages of the upper air passages. In all of his cases the bleeding had not appeared externally, but had passed by the nasopharynx into the stomach." (Sajous' Annual.)

J. N. McKenzie says: "Persistent and recurrent epistaxis is much more frequent between the ages of 15 and 25 years." The greatest number of fatal hemorrhages come, perhaps, from the removal of the tonsillar and adenoid tissues among those of the hemorrhagic diathesis and those with anomalies of the circulation in these tissues.

DIAGNOSIS.

The importance of a correct diagnosis in hemorrhage of the upper air passages can not be overestimated. Every mechanical means should be exhausted in determining the exact location of the bleeding point. Modern apparatus has been so perfected for diagnostic purposes that no one is justified in assuming to give an opinion in these cases who has not availed himself of the best apparatus and acquired the best skill possible in their use. The laryngeal mirror and palate retractor are invaluable aids in locating and differentiating diseases of the whole respiratory apparatus, and in many cases of the digestive apparatus as well.

ILLUSTRATIVE CASES.

Hemorrhages of the larynx, the nasopharynx, the tonsillar tissues, and the region about the base of the tongue are often mistaken for pulmonary hemorrhage, or hemorrhage of the stomach. The following cases in the writer's experience would tend to emphasize the importance of a patient effort with these instruments (the laryngoscope and palate retractor) in the search for the bleeding point.

CASE 1.—A young attorney of splendid physique called on me for what he supposed were hemorrhages from the lungs. He had been spitting blood for two or three weeks. I could discover no evidence of lung disease by the most careful examination. There was slight hyperemia of the larynx, but no sign of hemorrhage from that source. The anterior ends of the turbinate bodies were considerably engorged, producing occlusion of the nares. The first examination of the post-nasal space, on account of the patient's excessively sensitive reflexes, was unsuccessful. On questioning him he most skilfully evaded any history of syphilis. I remained in darkness as to the source of hemorrhage until I succeeded in examining the post-nasal space with the use of the palate retractor. The posterior portion of the septum was completely necrosed, the ulcerated process having extended to the veins in the vault of the pharynx. The hemorrhage that had persisted and was apparently from the lungs soon yielded to syphilitic treatment.

CASE 2.—I obtained the following history from Dr. Graham of Indianapolis:

"I was called to see Mr. E., aged 24, at St. Vincent's Hospital, Oct. 10, 1902. He had suffered a profuse hemorrhage from the mouth and nose as he was about to alight from a train at the Union Station. I obtained the following history: The patient, so far as he knew, had enjoyed good health until two months previous, when, while in a New York theater, there occurred without any premonition whatever a hemorrhage, the blood flowing from both the nose and mouth. He was removed to the New York Hospital, and one week later suffered a similar hemorrhage. He stated that it became necessary for the physicians to resort to intravenous injections of salt solution. . . . His case was there diagnosed as one of gastric ulcer, and laparotomy was performed for the same. One week later a third hemorrhage occurred. It was one hour after the fourth hemorrhage occurred that I was called to see this patient. It was stated that this hemorrhage filled a large cuspidor, and I am inclined to believe that this statement is not an exaggeration because of the hemorrhages which I saw at a later period.

"The diagnosis of gastric ulcer was not clear to me in this case and yet I placed my patient at complete rest, withheld all food by the mouth, and placed an ice bag over the epigastric region. . . . Dr. Page was called in consultation, and will give the further history and treatment of this most interesting case. I might add that I wrote Dr. J. H. Lewis, hospital surgeon at the New York Hospital, regarding this case, stating in my letter that I did not think there were any signs or symptoms of gastric ulcer, and received the following letter in reply:

"Mr. E. was a patient at this hospital and was operated on, as he stated to you. His stomach was opened by a two-inch incision in the anterior wall very near the pylorus. A bleeding surface one-half by three-fourths of an inch was found about the middle of the anterior wall and united by mattress sutures of chromated gut. It was thought it had probably been caused by instrumentation, and was not the cause of the previous hemorrhages. Apart from this no ulcer was found. One week after the operation he vomited about one quart of blood. He was discharged in fair condition with the diagnosis still in doubt. One remarkable feature at the operation was profuse and persistent bleeding in the wound through the abdominal wall."

I was called in consultation by Dr. Graham to locate, if possible, the seat of hemorrhage in this case. He had suspected that the bleeding was from the throat. Owing to the nervous and exhausted condition of the patient from the great loss of blood, and to the narrowing of the isthmus of the fauces from adhesion of the anterior pillars of the fauces to the dorsum of the tongue, I found it very difficult at the first examination to get a satisfactory view of the larynx and post-nasal space. We put the patient on strychnia and after a few days' training I succeeded in getting a good view of the throat in the laryngeal mirror. I discovered at the base of the tongue two deep fissures about an inch and a half long, extending from either side of the epiglottis and cutting the venous plexus about the base of the tongue, coming together

and forming an acute angle about an inch above the free border of the epiglottis. The tissue included in this triangle about the root of the tongue was considerably excavated. In examining these fissures with a probe a profuse hemorrhage was started and I had to resort to the suprarenal extract and chromic acid to arrest it. I was satisfied from this examination that this had been the seat of the previous hemorrhages which had so greatly exsanguinated the patient. On discovering these ulcerated fissures and the adhesions between the pillars of the fauces and the tongue (which caused the patient to talk tongue-tied), I concluded that syphilis was the cause of the trouble, although there was absolutely no history to confirm it. I placed the patient on antisyphilitic treatment and applied chromic acid and later nitrate of silver to the ulcerated surfaces. The hemorrhages ceased at once and there was a rapid gain in strength and weight from the start.

CASE 3.—Miss C., aged 23 years, a singer, called on me in June, 1895, for what she supposed were pulmonary hemorrhages. She said the sputum had been examined and that her physician found tubercle bacilli in abundance, and ordered her to Colorado at once. Laryngoscopic examination revealed a small angioma on the left vocal chord surrounded by dried blood. I cleansed the larynx with the spray and could see that the blood vessels about the small growth were dilated and partially denuded of epithelium. She said her hemorrhages usually came on after singing. I requested her to sing, and could detect the blood flowing from the growth and the dilated vessels. I destroyed the distended vessels and the growth with the electro-cautery and there was never any further hemorrhage. The subsequent history of this case and the lack of abnormal temperature, as determined by several tests with the thermometer, convinced me that this patient never had tuberculosis, notwithstanding that tubercle bacilli were reported to have been found in the sputum.

TREATMENT.

It is the intention of the writer to only refer in a few words to some of the numerous methods of treating hemorrhages of the respiratory tract. With our modern method of illuminating the air passages the bleeding point should be located before any efforts at plugging or hemostatics are resorted to for the checking of the hemorrhage. In only exceptional cases where the bleeding is from several different points on the membrane and in those cases where gagging and vomiting render the parts inaccessible should we try to check the flow of blood temporarily until its source can be determined.

The cocain spray and suprarenal extract have proved to be invaluable aids in checking the flow of blood and diminishing the reflexes, thus enabling us to make a diagnosis. The ordinary surgical measures for checking hemorrhages in other parts, such as the use of the ligature and artery forceps, are rarely of service to the laryngologist. Probably in no department of surgery is the operator so handicapped in the treating of hemorrhages as in the nose and throat. Large blood vessels emerge from bony or cartilaginous walls to be distributed to parts accessible only by the most delicate instruments and visible only by artificial lights. To cut down on a vessel and ligate it is out of the question in the majority of cases. In a few cases this has been done successfully in the violent hemorrhage that sometimes follows the removal of the tonsils or adenoids. Keane reports two cases of ligation of the external carotid artery for severe hemorrhage following slight operations in the nose and pharynx. He says this is a simple operation, and every nose and throat surgeon should be prepared to perform it when life is threatened.

For the ordinary hemorrhages of the respiratory tract our resources are ample and effective. Suprarenal or adrenalin extract has proved invaluable in the writer's operative work.

Some laryngologists claim that it is deceptive in that it is apt to be followed by intense reaction and secondary hemorrhage several hours after an operation.

GENERAL SURGICAL ANESTHESIA.

ERNEST J. MELLISH, M.D.

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EL PASO, TEXAS.

(Concluded from p. 1403.)

SELECTION OF AN ANESTHETIC.

In order to receive favorable comparative consideration, an anesthetic should possess these qualities: Immediate and remote safety; least disagreeable to take; best calculated to quickly produce and maintain muscular relaxation, followed by the minimum of ill effects, as vomiting, depression, respiratory troubles, renal disturbance; minimum influence on the question of hemorrhage; best adapted to the individual case. In the vast majority of cases the choice lies between ether and chloroform. It has been proven beyond reasonable doubt that, all things considered, chloroform is more dangerous than ether, both immediately and remotely. The immediate safety (during administration) is so overwhelmingly in favor of ether that I do not hesitate to assert that those who hold to the contrary can not be fully acquainted with the facts. There are really very few contraindications to the use of ether when skilfully administered by the "open" method. It is not strongly contraindicated, even in ordinary cases of chronic nephritis, nor in any but acute or severe bronchial affections. In the presence of asthma or of acute bronchial affections, marked arteriosclerosis or atheroma, ether is more dangerous than chloroform, as a rule. Atropin will, to some extent, prevent the danger in the first two conditions, and amyl nitrite or nitroglycerin in the last two. Although formerly (for ten years) a chloroform advocate, I have learned from experience, careful observation, and the study of recent investigations, to use chloroform only where it is especially indicated—and that is extremely seldom. The safety margin between sufficient ether for anesthesia and the lethal dose is much greater than with chloroform. Ether is much safer for indiscriminate use, in that most physicians who administer anesthetics are relatively unskilled in their use. In order to reduce the bad effects of an anesthetic to the minimum, it must be skilfully administered; and when the anesthetic is badly given, the dangers from chloroform are very much greater than those from ether. Ether kills slowly, generally by its effects on respiration, and usually gives ample warning of danger, since the heart continues to beat long after respiration ceases. Chloroform kills quickly, generally by its effect on circulation, and is very likely to afford no warning of danger. Ether is safer in healthy persons than in the weak and prostrated, while chloroform is often as dangerous in the vigorous as in the debilitated. Treatment usually promptly overcomes unfavorable symptoms from ether, and often does no good in those from chloroform. Public opinion in most parts of this country is overwhelmingly in favor of ether, as compared with chloroform; hence, if an accident happens with ether the surgeon is much more likely to escape blame. As mentioned by Treves,²² the objection urged against ether, that it produces venous engorgement, and, consequently, too much oozing from the field of operation, is not well founded, the question being chiefly one of administration.

General Statistics.—The statistics of deaths from anesthetics can not be relied on as indicative of the actual dangers encountered. They represent the deaths only, and not the narrow escapes. Moreover, in this country, and in some others, it is probable that not half the deaths from anesthetics are reported.

The statistics presented at the Thirtieth German Surgical Congress, Berlin, May, 1901, credit chloroform with a death rate of one in 2,023; ether, one in 5,090; ethyl bromid, one in 5,228.

Gurlt's statistics up to 1893, based on 157,815 war cases, give a death rate for chloroform of one in 2,899; chloroform with ether, one in 41,181; ethyl bromid, one in 4,588; pentol, one in 199. No deaths from ether or A.C.E. mixture reported.²³

A. I. Boudleur²⁴ quotes statistics of over 1,000,000 chloroform and over 500,000 ether anesthetics, in which the average chloroform mortality is one in 3,355, and the average ether mortality one in 16,768.

In considering statistics, we find that the personal equation is of the greatest importance. One man has 15,000 chloroform cases, with only one death, while another has three deaths in less than 1,000 cases. One selects his cases for chloroform, while another gives it indiscriminately. One administers an anesthetic carefully by the open method; another gives it carelessly by the closed or the smothering method. It is notable that by far the greater number of deaths are reported from localities where chloroform and pseudo-scientific, complicated inhalers are extensively employed. I quote from an article in *The British Medical Journal* of the late '90's: "In a certain institution in Great Britain, in the course of a recent year, there were, out of some 3,000 or 4,000 administrations, no fewer than twelve fatalities from chloroform." Taking the higher number of anesthetics, this means one death in every 333 administrations.

German statistics during the decade 1890 to 1899, show deaths about as follows:

Ether, one in 7,000; chloroform, one in 2,000; ethyl bromid, one in 4,000; pentol, one in 2,000; chloroform-ether, one in 9,000; A.C.E., one in 6,000.

Ziegler's statistics give the death rate of chloroform as one in 1,900 and of ether as one in 26,000.

Chaput gave it as one in 2,000 and one in 13,000, respectively.

Foy's statistics, based upon 877,507 chloroformizations and 314,738 etherizations, give a mortality of one in 4,301 and one in 14,987, respectively (Sajous' Annual).

Poncet had but one death in 29,000 ether anesthetics. He believes the danger is from asphyxia.²⁵

In the presence of postnasal adenoids, especially if hypertrophy of the faucial tonsils also be present, I consider chloroform extremely dangerous. Nitrous oxid—with the patient in the recumbent posture—is the best anesthetic for these cases, and ether, to the stage of primary relaxation, the next best.

Many of the sudden deaths under anesthesia, especially of children and young persons, have occurred in the presence of a persistent, or even hypertrophic, thymus. In most of such cases the spleen and tonsils are unusually large, and enlargement of the follicles at the base of the tongue is constant (L. Laquer, Strassburg).

23. Practical Surgery, Senn, 1901.

24. Chicago Medical Recorder, May, 1897.

25. Progressive Medicine, December, 1902, p. 78.

22. Practitioner, London, October, 1896.

Preparation.—All patients who are to be subjected to anesthesia should, if possible, have the benefit of at least two or three days' preparatory treatment and observation. The organs of elimination—the bowels, the kidneys and the skin—should be put in the best possible condition. The urine should be examined carefully for evidences of nephritis or diabetes, so that precautions may be taken where necessary. The condition of the cardiovascular system and of the lungs should be carefully determined, and the patient's habits, as to alcohol, tobacco, and narcotics, inquired into. In patients with any pronounced symptoms of anemia a blood examination should be made. When the percentage of hemoglobin is under 40, no operation should be performed save in great necessity, on account of the destructive action of anesthetics on the erythrocytes. The food for as long a time as possible before the operation should be of the most nutritious and easily digested kind suitable for the patient, and the feeding should be rather forced than otherwise, especially in delicate persons, up to the day preceding the operation, in order to bring the vitality to the highest available point, thus enabling the patient to better withstand the shock of the operation and the anesthetic. The day preceding the anesthesia the diet should be nutritious and light—either liquid or semiliquid. No solid food or milk should be given within several hours of an anesthesia, but water should be allowed to within say two hours preceding it; and a cup of beef tea or one of coffee, or both, taken from one to two hours before the administration, are valuable for their stimulating and sustaining effects. The system should be well supplied with fluids before and after anesthesia. "All the functions of the body are carried on in a fluid medium." Without abundance of this medium, we may not expect as rapid recovery from the effects of the anesthetic and operation as can be obtained with plenty of it.

W. A. Briggs²⁶ advocates the use of oil of peppermint or menthol preliminary to etherization. About a dram of the oil or of a 50 per cent. alcoholic solution of menthol is sprinkled in the inhaler and the patient allowed to inhale freely for three minutes, then etherization is pushed as rapidly as is consistent with safety. The seeming advantages, as compared with the usual method, are: 1. The anesthesia may be more easily and quickly induced, and more smoothly maintained; 2, entire absence of coughing and suffocation, and comparative freedom from nausea, vomiting and retching; 3, suppression or marked abbreviation of the period of excitement; 4, profounder first anesthesia, which permits minor operations with greater certainty; 5, less post-anesthetic nausea.

During the past few months this method has been followed in my practice with excellent results. It deserves extensive trial. In etherizing a 4-year-old boy, recently, the transition from peppermint to ether was unnoticed, and there was no stage of excitement.

Administration.—It is of the utmost importance that before beginning the administration of an anesthetic the anesthetizer gain the confidence of the patient, and thus be enabled to allay fears which have been conjured up perhaps days or weeks in advance. In persons of average intellect and education the difficulties are not generally great, but in the ignorant, especially if very nervous or hysterical, it is occasionally impossible to allay the apprehensions of real or imaginary dangers. I find that the greater the fear preceding anesthesia, the greater the danger during the narcosis. It is best to anesthetize the patient in a room free from noise, and

do no talking, excepting to the patient, while inducing the narcosis; and the anesthetizer should invariably have someone within easy reach to aid him in case of emergency. There should be as little disturbance and lifting of the patient as possible after the anesthesia has begun, so as to avoid disturbing the anesthesia in its early stages. During the past two years I have followed the custom of William J. and Charles H. Mayo of Rochester, Minn., of having patients anesthetized in the operating room on the operating table.²⁷ I then have them under my own eye from the beginning of anesthesia, and there is no disturbance or loss of time due to changing from cart to table. It is seldom that quiet, almost noiseless breathing can not be maintained throughout a narcosis. The yielding of the jaw is a trustworthy indication of the approach of surgical narcosis. If the jaw is rightly managed the gag and the tongue forceps will very seldom be needed. When the forceps are used it is seldom necessary to lacerate the tongue or to nearly amputate it by pulling it constantly downward across the lower incisors. The administration of the anesthetic, whether ether or chloroform, should begin gradually.

There are two ways of avoiding overdosage, which are too often neglected: 1, expedition in getting the patient on the table and ready for the surgeon after narcosis is complete; 2, as rapid operating as is consistent with thoroughness and safety. In fewer words, avoid giving the anesthetic a moment longer than necessary.

Danger Signals.—There is no one signal that is an infallible early guide. The pupillary reflexes are the best single guide to impending danger. A rapidly dilating pupil means danger, and a fixed, dilated pupil means extreme danger. A contracted, immobile pupil usually indicates safe surgical anesthesia; a pupil oscillating between contraction and dilation, diminishing anesthesia. The pupil is sometimes modified by the nature of the operation, as by manipulation of extremely sensitive tissues, or by suddenly changing the patient's position. The color of the face, lips, ears, and nose should be constantly observed. An ashen hue of any of these parts should create apprehension. Blueness of the skin is generally due to asphyxiation, and is much less dangerous than abnormal paleness, which generally indicates gradual poisoning of the circulatory mechanism, including the center in the medulla. To emphasize these conditions, Wm. Mitchell Banks²⁸ speaks of the "blue" man and the "white" man. The latter is in great danger. A. P. Ohlmacher²⁹ maintains that in the condition of lowered vital resistance known as the lymphatic constitution there is a strong tendency to sudden death in anesthesia. The respiration and pulse should be watched in all cases with the greatest care, no matter what anesthetic is being administered. The reflex rigidity occasioned by manipulation of sensitive tissues often demands temporary withdrawal of the anesthetic, whereas the temptation is to "crowd" it. Likewise, great vigilance should be exercised by the administrator when the surgeon is severing large nerve trunks.

Respiration during anesthesia should, as a rule, be easy and quiet. Snoring or stertor suggest either partial obstruction or too much anesthetic. When the epiglottis drops back it is necessary to introduce the finger into the mouth and lift it away from the glottis. If these maneuvers fail, artificial respiration by the

27. Alice Magaw, "The Administration of Anesthetics," St. Paul Med. Jour., January, 1902.

28. THE JOURNAL Am. Med. Assn., Dec. 7, 1901, vol. xxxvi.

29. Philadelphia Med. Jour., March 10, 1900.

26. Occidental Medical Times, April, 1902.

Sylvester method should be instituted. If then no air enters the lungs, the trachea should be opened. If the heart becomes weak during the anesthesia, it is well to inject subcutaneously a cardiac stimulant, as nitroglycerin, digitalis, spartein, strychnin. If amyl nitrite be given, remember it is only the temporary vasomotor dilator action that is wanted. If pushed beyond this not easily determined limit it may cause cardiac paralysis. The head-down position, by determining more blood to the circulatory center, aids in strengthening a heart which has become gradually weak.

TREATMENT OF EMERGENCIES.

Methods of treating emergencies may be thus summarized:

1. Reflex excitation of respiration by external application—for example, cold or cautery to the epigastrium, ammonia vapor to the nostrils.
2. Reflex excitation of respiration by mechanical means—as rhythmic traction on the tongue (Laborde), or division of the sphincter ani.
3. Artificial respiration. Tracheotomy (when other means fail).
4. Measures counteracting circulatory failure—like posture or rhythmic compression of the chest or abdomen.
5. Cardiac stimulants—as amyl nitrite, nitroglycerin, strychnin, atropin, spartein, aromatic spirits of ammonia.
6. Bleeding from a large vein to relieve the over-distended right heart (when other means fail).

In the majority of cases oxygen, either pure or atmospheric, is the best resuscitant; but in some instances well-selected drugs are beneficial.

It should be kept in mind that in the first and second classes the nerves must be sufficiently alive to convey stimuli.

VOMITING DURING AND AFTER ANESTHESIA.

Serious or persistent vomiting, either during or after anesthesia, can nearly always be prevented by right management of the patient and of the anesthesia. In the first place, the patient must be properly prepared for the administration, and an anesthetic selected which is suitable for the particular case in hand.

Postanesthetic vomiting can be reduced almost to insignificance, if the patient is properly prepared for the anesthesia; if the anesthetic be carefully selected and skilfully administered; if the patient be transferred from the operating room to bed without much jarring, and kept perfectly quiet and free from disturbance in bed; and, finally, by freeing the stomach of accumulated mucus or bile. During the past five years I have practiced gastric lavage, as suggested by I. P. Gunby of Sherman, Texas.³⁰ Physiologic saline solution may be used, and from one to two quarts is usually sufficient. A medium-sized or small soft rubber stomach tube is introduced, through the nose, as soon as administration of the anesthetic is suspended, and the stomach washed while the dressing is being applied. During the procedure the patient's body should be sufficiently inclined head downward to prevent fluid from entering the trachea. This procedure aids materially in reducing vomiting to insignificance.

Another method for the prevention or control of postanesthetic nausea, introduced by Mackenrodt, is the inhalation of vinegar. It is supposed to be equally efficacious after ether or chloroform. After trying it

in several hundreds of cases, I have concluded that this method is of little value.

DEDUCTIONS.

1. It is not justifiable to employ any one anesthetic exclusively. The safest anesthesia depends on: 1, the choice of the anesthetic best adapted to the case in hand; 2, the best technic of preparation, administration and general management; and, 3, a skilful anesthetizer.

2. The recent advance in our knowledge of local and neuroregional analgesia has materially narrowed the field of general anesthesia, but the local method can not supercede the latter.

3. Cases for anesthesia should be divided into three groups: 1, cases in which the indications for local anesthesia are absolute; 2, cases in which the indications for general anesthesia are absolute; and 3, doubtful cases. If in doubt, use the general anesthetic.

4. The mere fact that an operation can be performed under local anesthesia is not sufficient justification for its employment. As a rule, better work can be done under general narcosis, and, especially in septic cases, post-operative complications are less likely to occur after a skilfully conducted general anesthesia than after local.

5. Both ether and chloroform exert a destructive effect on the erythrocytes and reduce the amount of hemoglobin (chloroform having the greater destructive action), hence, in anemic patients at least, the blood should be examined before administering an anesthetic. When the percentage of hemoglobin is below 40 an anesthetic should not be given when it can be avoided. Even with a hemoglobin percentage of 50 the danger is great.

6. Chloroform tends to cause fatty degeneration of the heart, liver and kidneys, while ether has very little effect in this direction. On the kidneys the effect of ether properly administered is usually transient; that of chloroform is likely to be more serious and prolonged.

7. Ether is a respiratory depressant, and usually exerts its bad effects primarily on the respiratory system. Chloroform is a circulatory depressant, and usually exerts its bad effects primarily on the circulatory system.

8. Nitrous oxid is a true anesthetic, and can be employed for prolonged operations (where complete muscular relaxation is not essential) when administered with certain proportions of oxygen, either pure or atmospheric. Its use is satisfactory only in skilled hands.

9. Ethyl bromid and ethyl chlorid are convenient for primary anesthesia and for short operations. They are probably less dangerous than chloroform. Both are circulatory and respiratory depressants.

10. Chloroform can not be made as safe as ether by admixture with other drugs, although the danger in its administration may be somewhat reduced by this means.

11. As a rule, strychnin or other heart tonic is indicated in the debilitated or preliminary to chloroformization, and morphin and atropin preliminary to etherization. Oxygen and posture are the best resuscitants.

12. Ether produces less circulatory depression than chloroform. It causes dilation of the arterioles and increased capillary circulation, thereby insuring a good blood supply to the circulatory and respiratory centers and to the heart muscle; consequently these systems are in less immediate danger than with chloroform.

13. On account of the reduction of body heat by anesthetics, they should be administered in a warm room; and the patient should be protected from loss of heat by proper covering of the body, by keeping it dry so

far as practicable, and by application of artificial heat when necessary. The temperature of the operating room should not be above 85 F. In changing the patient from operating room to bed, beware of cold halls or drafts.

14. Compression of the phrenic nerve will, if properly managed, usually control retching and kindred symptoms occurring during narcosis.

15. Postanesthetic nausea is best prevented by preparation and after-treatment which favor physiologic tonus, with especial reference to the emunctories, and by gastric lavage at the termination of anesthesia. Troublesome vomiting is in most instances quite unnecessary, no matter which anesthetic has been given. Chloroform is likely to cause more persistent nausea and vomiting than ether.

16. Patients should be well fed with easily digested and non-bulky food to within a few hours preceding anesthetization, and should be allowed water to within 2 or 3 hours of it. This plan reduces shock, favors elimination of the anesthetic and other waste products without undue irritation of the emunctory organs, and the patient will not suffer much from thirst and nausea. For the same reasons water should be given as liberally as practicable after anesthesia.

17. The danger from hemorrhage is no greater with ether than with chloroform, if as great, since the bleeding which occurs from the effects of ether is primary and is more certainly provided against; while the circulatory depression and vasomotor constriction due to chloroform to a great extent prevent primary bleeding and lead indirectly to later hemorrhage.

18. The safety margin between sufficient chloroform for anesthesia and the lethal dose is much narrower than it is with ether.

19. Anesthetic mixtures are in general less safe than the "straight goods." It is impossible to know the relative proportions of the different components of a mixture that the patient actually inhales; and when accidents occur the anesthetizer is hampered in his treatment by not always knowing which constituent is causing the trouble.

20. Ether-oxygen narcosis is safer than ether alone, by the "closed" method, but the oxygen gas is superfluous in most cases where ether is properly administered.

21. The ethyl bromid-ether method is a time saver, but is not safe. Ethyl chlorid-ether is probably still less safe.

22. Morphin-ether-chloroform anesthesia is of positive advantage in operations about the face, where it is difficult to maintain surgical narcosis by the ordinary means. Souchon's special inhaler is a valuable adjunct in these circumstances.

23. As a rule successions of anesthetics should be avoided, with the exception of nitrous oxid-ether.

24. Ether given alone is especially dangerous in the presence of arteriosclerosis, and chloroform especially so in anemia and where there are degenerative changes in the vital organs.

25. Partial or "talking" anesthesia is best in some cases, but should be avoided in prolonged operations unless taken quietly and with apparent abolishment of pain sense.

26. Primary ether narcosis stands next to nitrous oxid for short operations.

27. Hypnotic anesthesia should be employed only exceptionally, if at all.

28. In a patient liable to recurrent insanity, anesthesia is dangerous, but not so in one already insane.

29. Paralysis following anesthesia is almost always a pressure paralysis and is preventable.

30. In myocardial disease all anesthetics are especially dangerous, while in purely valvular disease they usually create but little disturbance. Ether is the anesthetic of choice, and is safer for many major operations in these cases than local anesthesia. Asphyxiation should be especially avoided in administering an anesthetic in the presence of heart disease. The use of chloroform is entirely out of question in myocardial disease.

31. In the plethoric and the obese, especial care must be exercised in the selection and administration of anesthetics, the chief danger encountered being from respiratory disturbance (often due to turgescence and consequent swelling of the boundary parts of the upper air passages).

32. Ether is the best anesthetic in obstetric practice. Chloroform is more dangerous to both mother and child.

33. Rectal etherization is feasible, but too dangerous to be employed in a routine way in any class of cases.

34. Any anesthetic, but especially ether, should be given with the greatest caution in the presence of special susceptibility to acute bronchial affections. Great care should also be exercised in the presence of asthma, and chloroform is in some cases preferable to ether.

35. Patients with peritonitis require a dangerous degree of anesthesia to produce relaxation of the abdomen. The anesthetizer should be extremely careful about "crowding" the anesthetic to overcome the rigidity brought about by the manipulation of sensitive or inflamed tissues, since handling such tissues often causes a dangerous degree of shock.

36. The best type of inhaler, for both chloroform and ether, is one made on the principle of the Esmarch chloroform mask.

37. The tongue forceps and the gag are seldom required, and the latter often endangers life, as ordinarily used. The right management of the jaw during narcosis will nearly always render these instruments superfluous.

38. The anesthetizer should gain the confidence of the patient as to his carefulness and ability, so that the mind may be at rest on these points. Patients who greatly fear anesthesia are the ones liable to cause the anesthetizer the most trouble.

39. The patient should be kept as free as possible from noise and other disturbances during the induction of anesthesia.

40. "Crowding" an anesthetic is usually not justifiable, as it adds materially to the danger. The necessity for "crowding" is the chief objection to the use of the nitrous oxid-ether method as ordinarily carried out.

41. No time should be lost in getting the patient in the hands of the surgeon after narcosis is complete; and the surgeon should operate as rapidly as possible consistent with good work.

42. In administering an anesthetic the dose should be regulated by the effect. The elaborately constructed pseudo-scientific apparatus for accurately measuring the dose is dangerous, cumbrous and expensive.

43. When chloroform is used, administer it slowly, especially in the early stages of anesthesia. The amount of anesthetic needed for the average subject varies with climatic conditions.

44. The pupillary reflexes constitute the best guide to the presence or absence of surgical anesthesia, and the best danger signal. Touching the cornea with the finger to determine the presence or absence of surgical anesthesia is unwarranted. The anesthetizer should watch

carefully the pupils, pulse, respiration, and the color and condition of the skin, depending on no single symptom as a danger signal. The patient should be carefully watched from the beginning of the anesthesia until fully restored to consciousness.

45. When anesthetics are properly administered the patient seldom struggles. Noisy respiration during anesthesia should be the exception, as it generally means faulty management.

46. The minimum amount of anesthetic should be given which is consistent with the production and maintenance of the desired degree of anesthesia.

47. The weight of evidence is overwhelmingly in favor of ether rather than chloroform. There are very few contraindications to ether when it is properly managed.

48. Statistics do not sufficiently represent the dangers encountered, as the hair-breadth escapes far outnumber the deaths.

49. The skilful anesthetizer is never at a loss to know what to do in emergencies—and he does the necessary thing instantly. Most of the deaths occur in the hands of the relatively unskilled.

50. The greatest danger from chloroform is during the second stage of narcosis. Profound chloroform narcosis should not be induced within five minutes, nor should it often require more than ten minutes to produce it.

51. Chloroform is nearly or quite as dangerous in the vigorous as in the debilitated, because the vigorous circulation takes it up and distributes it rapidly. Often it is the concentration of chloroform in the system, rather than the amount, which kills.

52. In the treatment of anesthetic asphyxia, tracheotomy should be resorted to when other means fail.

53. In anemia of the medulla the patient should be placed in the head-down position. In sudden paralytic dilation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest; or the patient placed temporarily in the feet-down posture to empty the heart, artificial respiration being constantly maintained.

54. The safe anesthetic will probably never be found, as the production of unconsciousness has an element of danger associated with it. Nitrous oxid-oxygen anesthesia is the safest anesthesia known.

55. It is more the method employed and skill displayed in administering anesthetics than the particular anesthetic used that in most cases lead to favorable termination and rapid recovery from an operative procedure.

56. The surgeon is frequently more concerned about the anesthetizer's work than about his own, as in over half the cases the anesthetic is more dangerous than the operation. The surgeon can not do his best operating while devoting half his attention to the anesthetic.

57. When possible, anesthetics should be administered by those especially skilled in their use. The specialist in anesthesia is a necessity of the times, and in order to become a first-class anesthetist special aptitude is required.

58. The subject of surgical anesthesia should be taught as a special branch in medical colleges, and each senior student should have practical experience along this line, under the supervision of a skilled anesthetist.

59. If all physicians and surgeons could be made to realize the fact that chloroform is vastly more dangerous than ether, then chloroform would be discarded as a routine anesthetic and used only in exceptional cases.

NOTE.—At the meeting of the American Surgical Association, held in Washington, May 12-14, 1903, John C. Munro, Boston, reported a series of 500 surgical patients showing albumin and casts in the urine, without evidences of renal degeneration before anesthetization. Nearly all of these patients were anesthetized with ether, and in none of them was any noticeable renal damage inflicted. Most of these patients were of the poorer classes and entered the hospital poorly nourished and debilitated.

DISCUSSION.

DR. JAMES E. MOORE, Minneapolis.—I dissent from the last statement the gentleman made. I have been doing surgery for the past thirty years, and have done a lot of it during the past twenty years. I have used chloroform in 95 per cent. of all my operations, and I have never had a death, either at the time or subsequently, due to the anesthetic. The author says that when a patient dies from ether anesthesia it is usually due to faulty administration. That remark, gentlemen, applies eminently to chloroform. His third conclusion is worth discussion, if he had made no other remark during his whole paper. He says a competent anesthetizer is necessary. With a competent anesthetizer I have no fear of chloroform, save in cases where its use is contraindicated, and the longer I use it the more convinced I become of the truth of this principle. It is not the anesthetic that is dangerous so much as the unskilled anesthetizer.

DR. A. J. OCHSNER, Chicago.—The statement made by Dr. Moore concerning the anesthetist who understands his business thoroughly is absolutely correct, but we must remember that more than one-half, and possibly more than three-fourths, of all the anesthetics are administered by anesthetists with very little experience, consequently, with the conditions as they exist, I believe that the last conclusion of the author will still stand. In my own practice I use chloroform to anesthetize the patient regularly and change to ether before the operation is begun, unless there is a distinct contraindication, and I do it because I have a competent anesthetist. I would not do so unless I had. So, taking the conditions as they should be, I believe that Dr. Moore's point would be perfectly right, but taking the conditions as they exist, I believe that the author's conclusion is absolutely correct. There is always a feeling of confidence in the operator, if his anesthetist is not experienced in giving ether, because the more he gives the better it is for the patient, while, if the same anesthetist should give too much chloroform it would be very bad for the patient. I would say that if either of these anesthetics give trouble to the patient, then that anesthetic should not be used again during the same operation. If chloroform be given and the patient shows any bad symptoms, the chloroform should be abandoned throughout the operation, because the second or third time that trouble comes it may be fatal. In the administration of chloroform one point to be borne in mind which very frequently is overlooked, is that when trouble comes it is important to get rid of as much of the chloroform as possible. In making artificial respiration for the purpose of resting the patient, as a rule, the first thing done is to lift the arms and fill the lungs, presumably with air, but as a matter of fact with the chloroform, which is in the upper part of the lungs, and therefore, instead of giving the patient air you give him a very large dose of chloroform on top of what he already has. Therefore, the first thing to do is to make a number of very rapid and complete compressions of the chest in order to force out as much of the chloroform as possible. Aside from artificial breathing, I believe there is absolutely no use in all the methods which have been recommended for the purpose of reviving patients who have gotten into a dangerous condition during the administration of an anesthetic. There are but very few minutes to do anything for the patient if there is real danger. The practice Dr. Mellish makes of preparing the patient is very good. By his taking a big dose of castor oil to get rid of the fecal matter he is placed in a much better condition to stand the anesthetic. Of course, if his kidneys are bad, or if he has a bad heart, these conditions should be looked after.

The element of confidence on the part of the patient is of the very greatest importance. If you have a person giving the anesthetic in whom the patient has confidence that patient is not likely to get into trouble. If the patient vomits after the operation, gastric lavage will give immediate relief in most cases.

DR. M. B. TINKER, Baltimore—Local anesthesia I feel should be so much more extensively used than is now done. Many surgeons do not appreciate how much can be done under local anesthesia. As an example, hernia operations can be done under cocaine and with so little discomfort to the patient that they say in many instances that the pain is less than attempts made to reduce the hernia by taxis. I would not advocate local anesthesia in all cases by any means, but I am convinced that it does save a certain number of deaths from ether pneumonia, lung embolism, heart failure and other causes which I do not believe can be avoided if general anesthesia is employed. Several factors essential to success in the use of a local anesthetic: In the first place the patient should understand the advantages of operation under local anesthesia, and want it done in this manner. If he does not want the operation done in this manner he will object to the slightest pain and you will not be successful. Another point of great importance is the necessity for taking plenty of time; you can rush local anesthesia. You have to take care to infiltrate tissues well and take time for dissection. If you do not you will cause your patient much pain and he will complain so bitterly that you can not complete the operation. A good sized preliminary dose of morphin is also of great importance, say 1-6 of a grain one hour before the operation, another 1-6 at the beginning of the operation and still another 1-6 during the operation. A good moral anesthetist at the head of the table will be of great advantage in distracting the patient's attention from the slight pains.

DR. WILLIAM J. MAYO, Rochester, Minn.—We have for years preferred ether to chloroform, even though there may be just as many deaths from ether as from chloroform. When a fatal result does occur, the patient has a much better chance to bid good-bye to his friends than if he died from chloroform anesthesia. Dr. Ochsner brought out one very excellent point, that the first thing to do in trouble from chloroform anesthesia is to force all of the chloroform out of the lungs by compressing the lungs before forcing the patient to take an inspiration. The Souchon anesthetizer is a very valuable apparatus for operations on the throat and mouth.

There is a large tendency in this country to settle things in the laboratory. This can not be done. Now, take the question of hemoglobin, and the influence which it exerts on anesthesia; the amount of hemoglobin present is not usually so important a fact as is the cause of a loss of hemoglobin. I have often operated when the hemoglobin was as low as 25 per cent., due to hemorrhage, and I have never seen an accident following such an operation. But if you do an operation on a case in which from some malignant cause the hemoglobin is reduced to 40 per cent. or 50 per cent., and the oxygen-carrying power of the patient is decreased, you stand a chance to lose the case because with cachexia the blood is poor in oxygen-carrying power. We are exceedingly afraid of low hemoglobin in cancerous disease, but I would not hesitate to perform an operation with the hemoglobin as low as 25 per cent., provided the disease is due to blood loss resulting in anemia, and provided I can reach the cause of the loss of hemoglobin.

DR. JOHN E. SUMMERS, JR., Omaha—I want to call attention to the post-operative effects of anesthetics on the temperature curve. For some time I have been noticing that after prolonged operations under ether we would occasionally get a temperature curve. This used to be called "reaction," but now I have become convinced that it is due to the anesthetic. I have gotten so that I think I can recognize it, and am not alarmed.

Anybody who has lost a case on the table never forgets the anesthetic. I have had the misfortune to lose one case on the table from chloroform, and it does not make me feel any bet-

ter to know that every surgeon in my vicinity has had the same experience. Death comes so suddenly that it does not give you an opportunity to protect yourself or your patient. Dr. Mayo has expressed it very nicely by saying that it does not even give the patient an opportunity to say good-bye to his physician or his friends. Recently a little child was brought into the hospital with a compound fracture of the leg. He was given chloroform and the fracture reduced. Just as he was coming out of the anesthetic he vomited and aspirated some potato into his trachea. I opened the trachea immediately, but the child died from asphyxiation. I think it is always better in emergency work, especially among children, to wash out the stomach prior to the administration of the anesthetic, and in our hospital where much emergency work is done, I have made this a standing order because we can not know whether the stomach is empty or full.

In the Johns Hopkins Hospital, I notice by their Bulletin, that Cushing has found by experiments with the tonometer that chloroform always reduces arterial pressure more than does ether. I think there is no doubt that we are more liable to have accidents happen if we use chloroform than if we administer ether.

DR. E. J. MELLISH, El Paso, Texas—Dr. Ochsner spoke about using chloroform in all cases when he has a competent anesthetizer. It can be used more safely with a competent anesthetizer, but I have found from experience that no matter how chloroform is used it is more dangerous than ether. Dr. Moore's favorable experience with chloroform is doubtless due to skilful management of the anesthetics. Within a period of eight years I saw four deaths on the table from anesthetics, three from chloroform and one from ether. The patient who died from ether was extremely apprehensive before the anesthesia—lacked the necessary confidence in the anesthetizer. When this confidence is absent the danger is greatly increased. I have had at my disposal the records of 6,000 anesthetics at a Chicago hospital. The first three thousand anesthetics were given under the supervision of skilled anesthetizers. The last three thousand were given by those much less skilled in the administration of anesthetics. There were three deaths in this series, all occurring in the second three thousand cases. When chloroform is used, dangerous symptoms are likely to develop much more rapidly than after ether administration, and in the latter condition you have a much better chance to resuscitate your patient.

Another thing is, that chloroform, being heavy, is eliminated very slowly, and it has been detected in the sputa two or three days after the anesthesia. This means that the patient is continuously more or less poisoned during this time. Ether is eliminated much more rapidly.

TWO CASES OF PARATYPHOID INFECTION; ONE CAUSED BY AN ABERRANT ORGANISM.

G. BERTNARD SMITH, S.B.

(FROM THE BACTERIOLOGICAL LABORATORY, UNIVERSITY OF CHICAGO.)
CHICAGO.

Cases of paratyphoid fever, both sporadic and epidemic,¹ have been reported so frequently of late that perhaps some special reason should be given for calling attention to any more isolated cases. In the present instance the author believes that the bacteriologic findings are of sufficient interest to warrant a brief presentation:

CASE 1.—The patient, a man aged 58 years, entered the Presbyterian Hospital, Oct. 22, 1902. His temperature by mouth was 102.2, and he complained of frontal headache and severe abdominal pain. The abdomen was tender everywhere, but the liver and spleen were not palpable and no rose spots were visible. November 1 the patient had two hemorrhages from the bowels. The first was slight and only a small amount of blood was cast out. About three pints of liquid blood containing some clots were discharged with the second hemor-

1. Conradl and v. Drigalski: *Zelt. f. Hyg.*, 1903, XIII, 141.

rhage. The abdominal distress and headache continued through the first week of November, and during this time the patient was very weak and restless and at times slightly delirious. Beginning with the second week of November he began to show definite signs of improvement, and from this time his progress was uninterrupted and he was discharged November 21.

No rose spots were found at any time. The Widal test for typhoid was persistently negative throughout the course of the disease, even in dilutions as low as 1 to 10.

Five cubic centimeters of blood were drawn from one of the large veins of the arm, using the usual surgical precautions for asepsis. About 3 c.c. of this blood were put into five flasks each containing 150 c.c. of sugar-free bouillon and within twenty-four hours the organism to be described was obtained in pure culture.

This organism resembles the typhoid bacillus in morphology. It shows no capsule; it is not sporogenic. It stains somewhat unevenly with anilin dyes and is readily decolorized by Gram's method. It is motile, but is more sluggish than *B. typhosus*.

CULTURAL CHARACTERISTICS.²

Bouillon.—A uniform turbidity is shown in twenty-four hours. No scum forms even when growth continues for several days.

Agar.—A heavy white growth appears in twenty-four hours. This is moist with a raised margin and a smooth homogeneous surface. The growth is largely limited to the line of inoculation.

Litmus Milk.—No change is noticeable during the first forty-eight hours, but after the second day the reaction soon becomes strongly acid. No precipitation of casein occurs. At the end of several weeks the medium presents a deep blue color.

Gelatin.—No liquefaction occurs.

Neutral-red Agar.³—Both stab and shake cultures were used. A few gas bubbles formed, but no change occurred in the color of the media, even after several weeks.

Carbohydrates.—Glucose, saccharose, levulose, lactose, mannite, galactose and dextrin were tested in the fermentation tube. One per cent. of the carbohydrate was added to ordinary nutrient broth after removing the muscle sugar. Care was observed in every case to prevent overheating the sugar broths, and all that became darkened in heating were discarded. Gas production occurred only in the glucose broth.

REPORT OF A SECOND CASE.

A second case came to the writer's attention at the time the organism just described was being studied. This case was a private patient of Dr. James W. Walker and the organism was isolated by Dr. Harris of the College of Physicians and Surgeons, Chicago, and given to me for further study. This organism resembles very closely the bacillus isolated from Case 1 in its morphology and growths in bouillon, agar and gelatin.

Litmus Milk.—A slight acidity is noticed within the first twenty-four hours, but this is lost during the second or third day and the color again becomes neutral. After several weeks the medium assumes the same deep blue color described under Case 1.

Neutral-red Agar.—Gas bubbles are formed within twenty-four hours in both stab and shake cultures. The

color is rapidly changing during this time so that only in the lower one-fifth of the medium does the color still persist. It is almost entirely reduced to a light yellow by the end of the fourth day. After the first week the color gradually returns until the original appearance is again given. This return of color seems to occur from above downward instead of from below upward, as described by Buxton.

Carbohydrates.—This organism was grown in saccharose, glucose, mannite, levulose, lactose and dextrin media, using 1 per cent. in bouillon as before. Gas was formed in each case except in the broth containing saccharose and lactose. The fermentation tests with this organism seemed to follow so closely the results described by Buxton⁴ with his paratyphoid bacillus and closely allied forms that a comparative study was made in the different carbohydrates with the two forms here described and Buxton's organism. The gas formed was only roughly analyzed by the use of 2 per cent. NaOH.

PARACOLON BACILLUS FROM BUXTON'S CASE 7.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	5 days. p. cent.	
Saccharose	40	45	..	..	H ₂ : CO ₂ = 3 : 1
Glucose	40	..	..	..	H ₂ : CO ₂ = 4 : 1
Mannite	50	..	..	..	H ₂ : CO ₂ = 6 : 1
Levulose	50	..	..	..	
Lactose	5	10	10	22	H ₂ : CO ₂ = 4 : 1
Dextrin	..	..	..	..	

ORGANISM FROM CASE 2.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	
Saccharose	22	40	41	H ₂ : CO ₂ = 2 : 1
Glucose	22	40	41	H ₂ : CO ₂ = 4 : 1
Mannite	50	55	..	H ₂ : CO ₂ = 2 : 1
Levulose	30	45	..	
Lactose	5	15	20	H ₂ : CO ₂ = 3 : 1
Dextrin	..	..	..	

ORGANISM FROM CASE 1.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	
Glucose*	30	30	..	H ₂ : CO ₂ = 5 : 1

* No fermentation was obtained with saccharose, mannite, levulose, lactose and dextrin.

A comparison of the tables showing the carbohydrate tests indicates a close relationship between Buxton's paratyphoid bacillus and the organism⁵ isolated from Case 2. This is also shown by a comparison of the growths in litmus milk and neutral-red agar. In order to study still further this similarity a comparison was made of the agglutinative characteristics of Buxton's form and the two organisms here described.

MICROSCOPIC AGGLUTINATION TESTS.

No dilutions were made above 1 to 100. Buxton's paracolon was tested with serum from Case 2 and agglutination was shown in dilutions as high as 1 to 50. Serum from Case 2 was tested with Bacillus 1, and agglutination occurred in all dilutions as high as 1 to 50. Above this, dilutions as high as 1 to 100 gave almost complete agglutination, but I was unable to decide at any time that all motility was positively lost. Serum from Case 1, and also from Case 2, was tested with typhoid and hog cholera bacilli and *B. enteritidis* with negative results in every case even in dilutions as low as 1 to 10.

MACROSCOPIC AGGLUTINATION TESTS.

Small hemolysis test tubes were used in which the bacilli, in definite quantities, were added to a serum of the desired dilution, and after three hours' incubation the results were noted with the naked eye. The agglutination was considered positive only when complete

2. Except where stated otherwise all media were prepared according to the "Proceedings Recommended for the Study of Bacteria." Reports and papers of the American Public Health Association, 1893, xxviii, p. 60.

3. Neutral red agar was prepared by adding to neutral agar 0.5 per cent. dextrose and 1 per cent. of a 0.5 per cent. aqueous solution of neutral red (Grubler's).

4. Buxton: Jour. Med. Research, 1902, viii, 201.

5. The forms isolated from Cases 1 and 2 will hereafter be referred to as Bacillus 1 and Bacillus 2 respectively.

precipitation had occurred, leaving the liquid clear. Serum was obtained from four rabbits. Of these, one was immunized with Buxton's paratyphoid bacillus, the inoculations being continued until rapid agglutination was given at 1 to 2,000. A second rabbit was immunized with a typhoid organism.⁶ The third rabbit was inoculated with the bacillus of hog cholera⁷ until complete agglutination was given at 1 to 1,000. The fourth rabbit was inoculated with the *B. enteritidis*.⁸ The degree of agglutinative power reached in the serum of this rabbit was much lower than in any of the others, as the highest dilution giving positive results was 1 to 400.

Serum from the rabbit immunized with Buxton's paratyphoid bacillus gave negative results in dilutions of 1 to 10 with the bacilli of typhoid and hog cholera and with *B. enteritidis*.

Sera from the rabbits that had been inoculated with the organisms of typhoid, hog cholera and with *B. enteritidis* gave negative results at all dilutions with Buxton's form and with both Bacillus 1 and Bacillus 2. Bacillus 1, when added to Buxton's serum, was agglutinated at 1 to 100. Above this the precipitation was never found to be complete. Bacillus 2 was completely precipitated by the Buxton serum at all dilutions as high as 1 to 2,000. No dilutions were tried above this. Using the sign + to indicate complete agglutination, these results may be tabulated as follows:

	Bacillus 1.	Bacillus 2.	Buxton's form.
Buxton serum.....	+100	+2000	+2000
Typhoid serum.....	— 10	— 10	— 10
Hog-cholera serum.....	— 10	— 10	— 10
Enteritidis serum.....	— 10	— 10	— 10

To summarize, Bacillus 2 must be regarded as an organism which possesses the general characteristics of the paracolons, and, from its growth in litmus milk and neutral-red agar, together with the fermentation and agglutination tests, possesses a close relationship to Buxton's form. I have not made comparisons with other members of the paratyphoid group, but from Buxton's comparative study Bacillus 2 would seem to belong to the subgroup which comprises the organism isolated by Gwyn,⁹ two forms described by Johnston,¹⁰ Hewlett's form,¹¹ the bacillus Müller of Schottmüller,¹² Buxton's paracolon¹³ and possibly Cushing's¹⁴ Bacillus O.

Bacillus 1, while conforming to the general tests for paratyphoid bacilli, seems to occupy rather an independent position. The clinical history of this case is specially interesting because it shows the occurrence of two hemorrhages from the bowel. In the eighty-four cases of paratyphoid infection that have been reported, but four cases with hemorrhage have occurred. One was the case reported by Gwyn. Another, reported by Strong¹⁵ showed a complication from malarial infection. The third case was reported by Hume¹⁶ and the fourth was

one of an epidemic of fourteen cases reported by De Feyfer and Kayser.¹⁷

In morphology, Bacillus 1 shows no important points of difference from the rest of the paratyphoid bacilli which have been described, but in its special cultural characteristics it presents very marked individuality. It develops a strongly acid reaction in litmus milk, which does not, however, cause a coagulation of the casein and which changes to the typical alkaline state, although very slowly. No reduction in the color of the neutral-red agar occurs, which would seem to point toward a relationship with the typhoid bacillus.

The absence of fermentation, except in the glucose media, shows a particularly wide departure from the common type of paratyphoid organism studied by Buxton.

I am indebted to Dr. E. O. Jordan for many valuable suggestions and criticisms during the progress of this work, and to Dr. B. W. Sippy, who was the attending physician to the first case I have reported, for favors received at the hospital.

Clinical Reports.

A CASE OF PARATYPHOID.

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CHICAGO.

Until the symptomatology of the various forms of paratyphoid has been tabulated more completely than at present, apology for publishing clinical cases in detail should be superfluous. For the working out of the bacteriology and, therefore, for the establishment of the diagnosis, I am indebted to Mr. G. Bertnard Smith, who publishes his report separately in this number of THE JOURNAL, and to Dr. Fred G. Harris, pathologist of Cook County Hospital, who began the culture.

Dr. H. M. R.; aged 30; Jewish; family history negative. Eleven years ago was ill for ten days with what was said to be typhoid, but this is doubtful. Has not been out of Chicago for years. Present illness began about Sept. 10, 1902, with malaise, chilly sensations, headache, anorexia, free perspiration and slight temperature, with which symptoms patient went about his professional duties for a week, and on September 17 went to bed with what he and I presumed was ordinary typhoid fever. Pulse was then 80; physical examination negative, and it may be stated here to dispose of the matter, that at no time was the spleen palpable, there were never any rose spots, no tympanites, no diarrhea, no abdominal tenderness, in short, no abdominal symptoms nor signs. There was never any cough, nor was the tongue ever dry; patient was never unconscious, though there was some stupor during the first days in bed. From the beginning the chills (see temperature chart), perspiration and fever were the dominant symptoms, and led to a repeated search for the *Plasmodium malariae*, which was fruitless.

September 22 there was nausea and vomiting. September 23, very restless and uncomfortable. Second heart tone duplicated, pulse 130, dyspnea evident when talking, no rales nor cough, complained of diffuse pain throughout the chest. September 24, numbness of both little fingers, severe chills, albumin in the urine.

September 25, (1) The repeated severe chills, with absence of the plasmodium, and despite the liberal use of quinin; (2) the drenching sweats, (3) the diffuse chest pain, (4) the increasing dyspnea, (5) the absence of the Vidal and Ehrlich reactions, (6) absence of all abdominal symptoms and signs, (7) the very irregular temperature, and (8) the general evidence of profound toxemia in the absence of a discoverable local lesion, strongly inclined me to think the case one of acute miliary tuberculosis.

17. De Feyfer and Kayser: Münch. med. Woch., 1902, xlix, 1092.

6. This form was Typhoid 6 of Theobald Smith, which was originally obtained from the spleen of a typhoid patient. This serum agglutinated the typhoid bacillus in dilution of 1 to 25,000.

7. This organism is one obtained from V. A. Moore of the New York State Veterinary College, Cornell University.

8. This organism is from the stock cultures of the university laboratory, and possesses the typical cultural characteristics of *B. enteritidis*. The source is unknown.

9. Gwyn: Johns Hopkins Hosp. Bull., 1898, ix, 54.

10. Johnston: Amer. Jour. Med. Sci., 1902, cxxv, 187.

11. Hewlett: Ibid., 1902, cxxiv, 200.

12. Schottmüller: Deut. med. Woch., 1900, xxvi, 511.

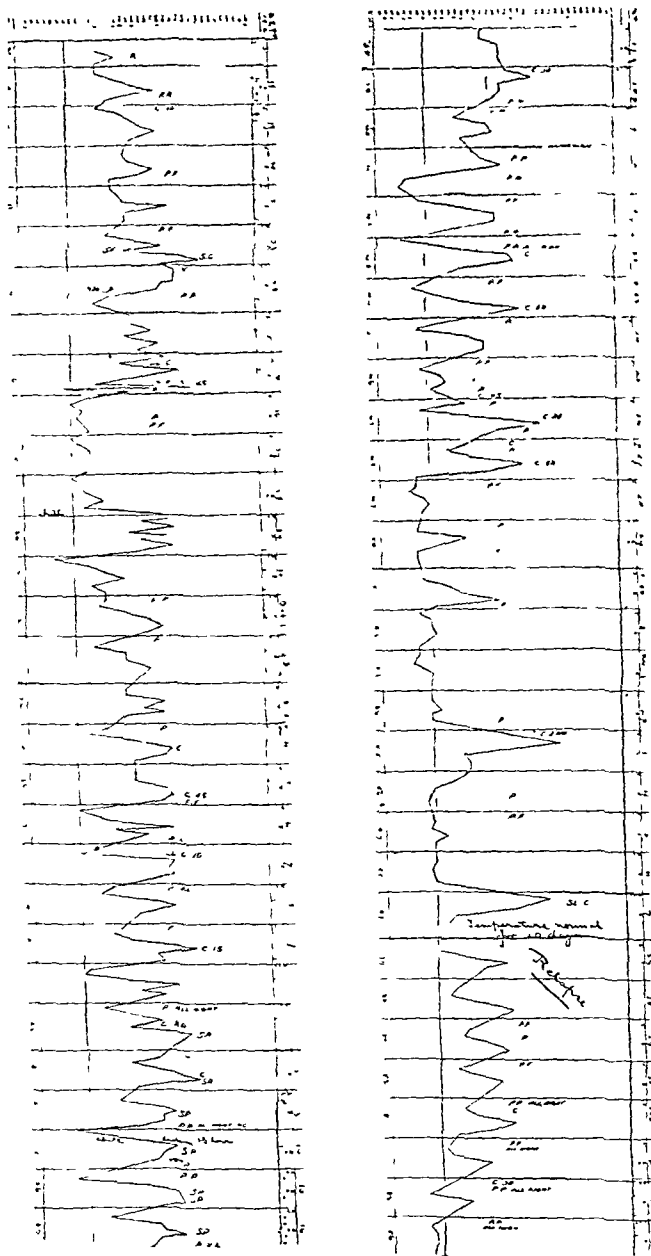
13. Buxton & Coleman: Amer. Jour. of Med. Sciences, 1902, cxxiii, 976.

14. Cushing: Johns Hopkins Hosp. Bull., 1900, xi, 156.

15. Strong: Johns Hopkins Hosp. Bull., 1902, xiii, 107.

16. Hume: Report of the Thompson Yates Laboratory, 1902, iv, 385.

Dr. A. R. Edwards consulted with me and saw the patient when at his worst. He thought the chances between tuberculosis and an atypical typhoid were about even, with a slight leaning toward the latter. Within five hours the clinical picture was much changed, and with it my opinion. Patient became cheerful and brighter and the dyspnea was diminished. His temperature had fallen seven degrees in one hour, and it then remained below a hundred for nearly three days. The change was almost in the nature of a crisis. September 28, pain in the left groin developed and the following day a femoral thrombosis was evident on palpation.



Clinical chart of Dr. Walker's patient. Explanation of lettering: P. P., Perspired profusely. P. F., Perspired freely. P. V. L., Perspired very little. SL. P., Slight perspiration. SP., Sponged. V., Vomited. C., Chill. SL. C., Slight chill. S. C., Severe chill. The figures in connection with the chills indicate the duration in minutes, unless otherwise specified.

September 29 Dr. F. G. Harris inoculated five flasks of bouillon with blood drawn from a vein. It is from this culture that the findings reported by Mr. G. B. Smith are derived. Urine, specific gravity 1022, trace of albumin, peptone present, few hyaline casts. Pulse ranged about 110, except at time of chills, when it went to 130 or 140. October 15, no new developments. Phlebitis now hardly noticeable; feels comfortable, except when temperature rises; sleeps better. Novem-

ber 7, feels strong and free from pain. November 12, walked a little.

During the relapse, beginning November 27 and lasting one week (see chart), the only important symptoms were again the chilliness, perspiration and fever. He eventually made a complete recovery. Of the cardinal symptoms it may be added that the chills were of the severity of malarial chills, and the sweats so profuse that his nightgown had to be changed from three to seven times in a night. The variability of the fever is indicated by the chart. At different times during the course of the illness the blood was examined for the Widal reaction, independently, by Drs. Hektoen, W. A. Evans, F. G. Harris and G. B. Smith, with negative results.

SERRATUS PARALYSIS.

RICHARD LIGHTBURN SUTTON, M.D.

Assistant Surgeon, United States Navy.

WASHINGTON, D. C.

Owing to the comparative rarity of this particular type of peripheral palsy I report the following cases which recently came under my observation in the service of Dr. H. M. Thomas, in the Johns Hopkins Hospital Dispensary.

CASE 1 (Neurologic, No. 14,722).—An American woman, aged 32, married, and a housewife by occupation.

Family History.—Her family history is unimportant; her father, who had always enjoyed excellent health, died at an advanced age, and her mother is still living. There is no suspicion of inherited constitutional disease, and none of her immediate relatives has ever suffered from paralysis.

Previous History.—She had the usual diseases of childhood, pneumonia at 18 and typhoid fever at 20. There is no evidence of her ever having had venereal disease and she is not addicted to the use of intoxicants. She has been married four years, has a healthy child 3 years of age, and there has been one miscarriage, thirteen months ago. Her surroundings are good, and she has no hard or difficult duties to perform.

Two years ago she suffered from a peculiar numb, prickling sensation in the forearms and hands which came on suddenly and was not accompanied by local coldness, tenderness or edema. No weakness nor motor disturbance of the parts followed, although there was some stiffness of the phalangeal joints. The attack lasted eight days. She has since been well up to within two months previous to her admission to the dispensary, except for a slight, painful swelling of the left ankle one year later.

Present Trouble.—On May 3, 1903, while in her usual health and without any known cause, she experienced, immediately after taking a hot bath, severe pain in both shoulders, radiating down the arms. The pain was very intense, but gradually subsided in the course of three weeks. It was associated with some swelling of the hands, but the joints seem not to have been affected. After the subsidence of the pain she noticed a slight drooping of the right shoulder, with inability to manage the joint. She was unable to lift her hand to her head, although she could raise a bucket, or other heavy object, from the floor. A physician told her she was suffering "from a dislocation of the shoulder, due to rheumatic contraction of the muscles," and after two months' treatment it was with this complaint that she came to the dispensary.

Examination.—On admission the patient was seen to be a small, well-nourished, intelligent woman. Her color was good, teeth sound and well shaped, no blue line on gums, and the general physical examination was negative. There was no abnormality discovered in the functions of any of the cranial nerves. The movements of the head and neck were perfect. With the patient standing erect, when the trunk was examined posteriorly, there was some lateral curvature of the spine, the convexity being to the right.

At rest, with arms at side, the inferior angle of right scapula was a trifle more prominent than that of the left. When the patient endeavored to extend the arm anteriorly a marked deformity developed. The scapula rotated on its vertical axis, its inner border leaving the chest wall, giving the

typical picture of "wing scapula." This became more pronounced when the patient made an effort to depress the arm against resistance. She was unable to raise her hand above her head, nor could she abduct the arms laterally at more than a right angle. All the movements appeared to be somewhat impaired, although there was no paralysis of any of the muscles other than the serratus. The deltoid seemed a trifle flabby, but the muscles moving the elbow, wrist and smaller joints were apparently normal. The left arm and hand were unaffected. There was no sensory disturbance discovered.

Electrical examination showed a normal response to all muscles except the serratus, and we were unable to get a satisfactory contraction from it on either side, although several efforts were made with both the galvanic and faradic currents. The muscles of the trunk and legs were not affected.

Diagnosis.—It was evident that this patient was suffering from a paralysis of the serratus magnus muscle, due, in all probability, to a neuritis of the brachial plexus which had injured the trunk of the posterior thoracic nerve.

Treatment.—She was placed on tonic treatment, in the form of tincture of nux vomica, m. xx. t. i. d., and galvanism

Previous History.—He has always enjoyed excellent health, does not remember having had the diseases of childhood, and denies venereal disease. Owing to the character of his work he is subjected to considerable exposure during bad weather.

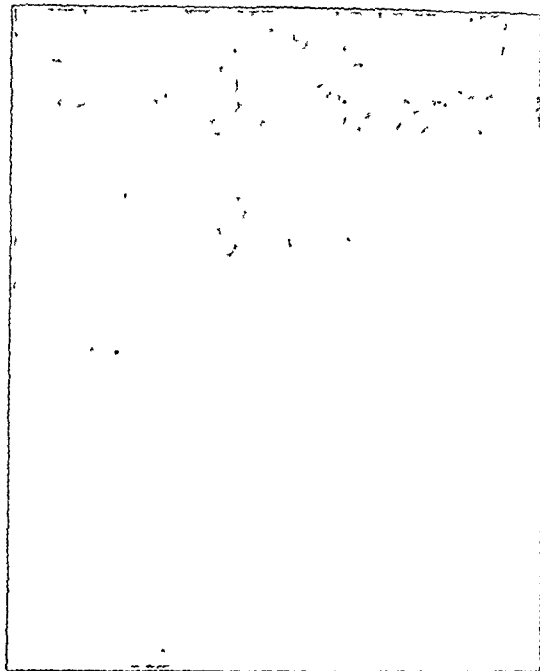


Fig 2.—Case 2 Displacement of the right scapula when the arm was held above and slightly in front of the head.

Present Trouble.—Five months ago he experienced a severe attack of pain in right shoulder accompanied by a swelling of the hand on that side. This came on without appreciable cause and persisted for three weeks. At the end of that time the edema had disappeared, but a dull, aching pain re-

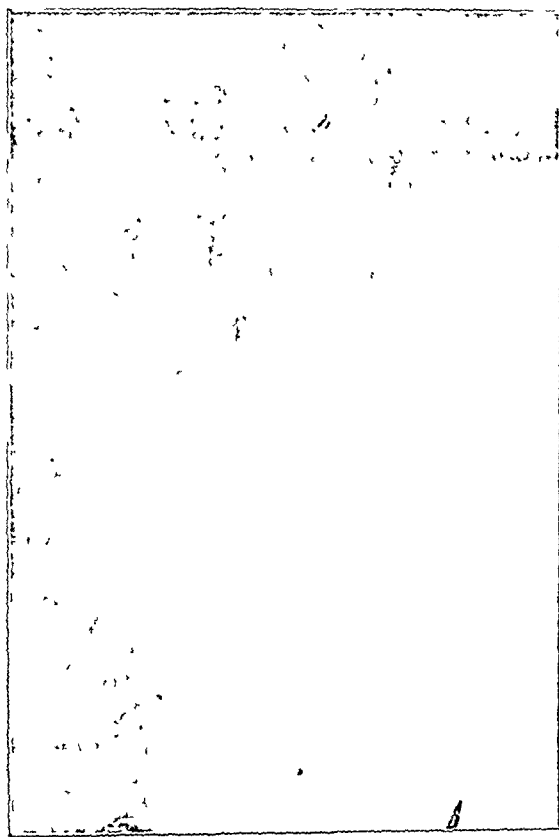


Fig 1.—Case 2. Displacement of the right scapula when the arm was held horizontally in front.

applied to the brachial plexus and the affected muscles twice weekly. We were not able to secure a photograph at this time, but her condition is accurately depicted by the first picture of the accompanying case.

Course.—After the treatment had been continued for three or four weeks marked improvement was evidenced and an examination on September 8 showed almost complete restoration of function. The patient herself experienced no discomfort. She could raise the arm above her head or extend it laterally and the scapula showed no tendency to leave its normal position. If, however, she was given a heavy book and told to raise it upward the full length of her arm, then lower it slowly, the vertebral border of the scapula receded from the chest wall and the entire bone rotated slightly, showing that the muscle was still weak.

CASE 2.—(Neurologic, No. 10,407.) A white man, aged 38, a street-car conductor, first came to the dispensary Oct. 23, 1899.

Family History.—Negative, none of his immediate relatives, so far as he knows, having ever suffered from nervous or mental disease.

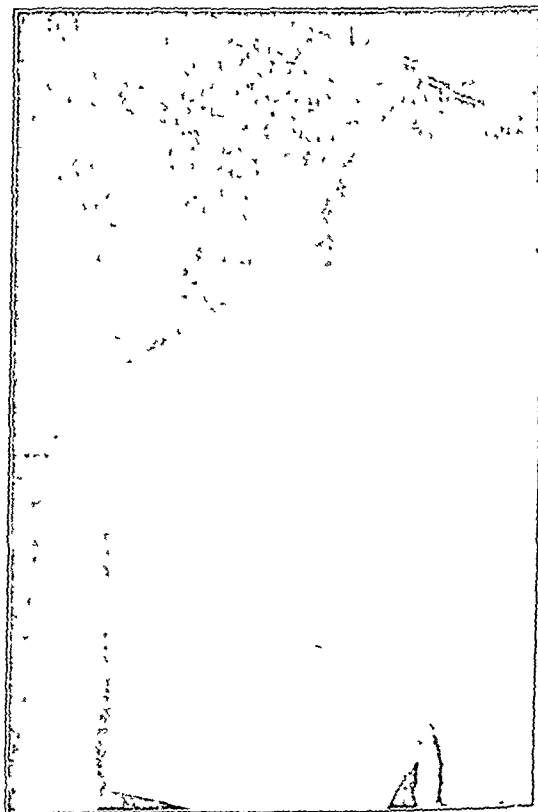


Fig. 3—Case 2. Displacement of inferior angle of right scapula when the arm was held at the side of the trunk.

mained and he noticed impaired movement of the shoulder. It was for this condition that he came under treatment.

Examination.—The patient, on admission, was found to be a hardy-looking, rather muscular man of medium size, with face and hands showing evidence of exposure to sun. Teeth

Dec. 12, 1903.

irly good, no blue lines on gums, functions of all the cranial nerves normal; the general physical examination was negative.

With the patient standing upright, arms at sides, the inferior angle of the right scapula was about 6 cm. higher than that of the left, and protruded backward from the posterior thoracic wall, a trifle farther than its fellow of the opposite side. There was marked impairment in the use of the muscles of the entire shoulder, because of inability to control or fix the scapula. When the hand was raised above the head by a second person the patient complained of pain in the region of the scapula, extending out toward the arm. The accompanying photographs give an excellent representation of the attitude assumed by the shoulder blade when the arm was placed in various positions. There was considerable atrophy of the right deltoid and both biceps and pectoral muscles were soft and flabby on that side.

Electrical examination showed a lack of faradic irritability only in the serratus and the lower portion of the trapezius on the right side, with a sluggish but not delayed reaction to the galvanic current in these muscles. The response was normal in all of the others.

Treatment.—The patient was given no internal treatment, but the right brachial plexus, posterior thoracic nerve and the affected muscles received galvanism twice each week for a considerable period of time. March 19, 1900, he was able to raise his hand above his head. The scapula still projected slightly when the limb was elevated.

Course.—He returned to work in August, 1900, but the constant and oftentimes violent movement brought on a relapse, and he was compelled to give up his position again. The current was applied regularly, however, and the improvement, while slow, was continued. In May of the following year (1901) recovery was complete, and he has not lost a day on account of illness since that time. A recent examination shows the parts to be normal in every way, and the electrical tests gave practically the same results on the two sides.

Comments.—Cases of serratus paralysis, although well recognized, are of uncommon occurrence. Among 14,956 cases registered in the neurologic department of the Johns Hopkins Hospital there are but these two uncomplicated conditions of this character. In each the etiologic factor was a neuritis of the brachial plexus, affecting the nerve supply of the serratus secondarily. The primary cause in Case 2 was, in all probability, exposure, coupled with overexertion of the parts comprising the shoulder girdle. The practical points illustrated by these two cases are: 1. The relative infrequency with which the condition is encountered. 2. The intimate relationship its etiology bears to inflammation of the nerve trunks composing the brachial plexus. 3. The liability to unilateral involvement of the right side. 4. The favorableness of the prognosis in cases where trauma is not a factor in the causation. 5. The importance of early and continued treatment by galvanism.

New Instrument.

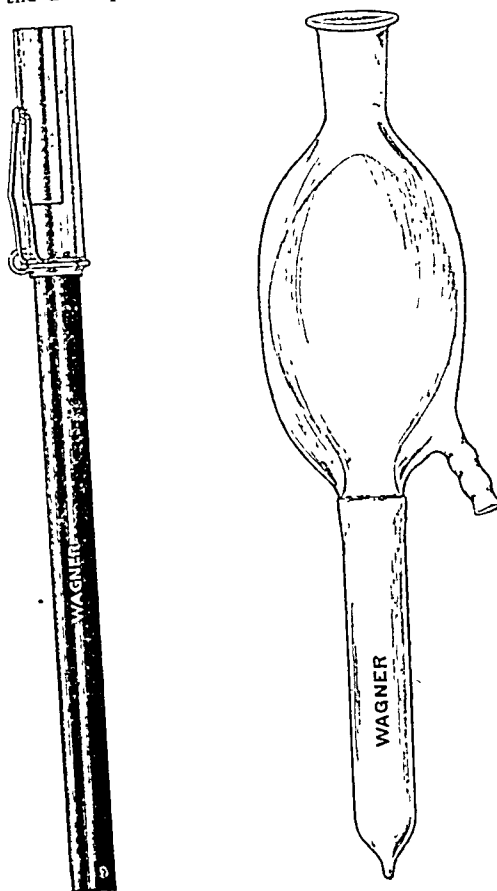
THE HUGHES IONIZER.

R. V. WAGNER, M.D.
CHICAGO.

Electricity is generally conceded to be a mode of molecular motion, and the higher the voltage or tension of the current becomes, the higher the mode of motion. When electricity is conducted through a substance it must impart a mode of motion to its molecular structures, and if this mode of motion is violent enough it disassociates the molecular structures and breaks them up. Very high voltage or high tension currents conducted through the air decompose the elements of the air, producing ozone in large quantities; it is on this principle that ozone generators have been commonly constructed. But the highest tension currents do not impart as high a mode of motion to the molecular structures of the normal air as to those of rarified air; as the mole-

cular structures of rarified air in a vacuum tube may be made to move at a much higher rate than is obtainable in any other way, the inductive energy arising from vacuum tubes impart a correspondingly higher mode of motion to the structures of the air surrounding them, producing more perfect decomposition.

It is on this principle that this new instrument has been constructed. A vacuum tube, excited by a high frequency, high tension current, is enclosed in a chamber through which air may be passed and the air acted on by the excited vacuum tube is much more finely broken up (breaking the molecular structures into atoms and the atoms into ions) than when the high-tension current is conducted through the air directly. One great disadvantage in the use of decomposed air is that the decomposed nitrogen produces effects on the tissues that are not desired, but in this instrument the air passing through the chamber may be made to carry remedies of an alkaline character so as to neutralize the acid effects produced by the decomposed nitrogen. If the ionizer be used in



combination with a nebulizer, the remedies held in suspension by the air acted on will be more finely broken up and decomposed than any nebulizer or atomizer is capable of doing, and in the treatment of nose, throat and lung troubles will be more effective by reason of the increased degree of penetration.

308 Dearborn St.

Accuracy in Therapeutics.—Medicine is a progressive art, and is becoming more scientific. Causes of symptoms and diseases are now known, and the attempts made at their eradication is a chief principle in treatment. Manual or mechanical aids are being used with increasing frequency and satisfaction. The local application of drugs is used much more frequently, instead of soaking the whole body to get the effect on some special part. Instead of huge doses of crude drugs, the alkaloids or active principles are being used, so that one can now medicate with as much skill and as definitely as he can use the knife, stopping short at the physiologic effect or increasing or decreasing the effect as he wills.— *Iowa Medical Journal.*

Special Article.

THE TYPHOID EPIDEMIC AT BUTLER, PENNSYLVANIA.

(From Our Special Commissioner.)

The newspaper reports of the typhoid epidemic at Butler, Pa., have not been exaggerated. Butler is a thriving little city of about 16,000 inhabitants, most attractively situated in a hilly country in western Pennsylvania, about forty miles northwest of Pittsburgh. It is primarily an oil town, and as such has been considered particularly prosperous. The manufacture of plate-glass under local management is one of the leading industries. In the spring of 1902 the Standard Steel Car Company opened extensive works at Butler and these were in operation until a few months ago, when they were closed on account of the depression in the steel market. It is said that there were no "poor people" in the town until the advent of the steel works, which brought in a number of Hungarians and other foreigners.

PREVIOUS TYPHOID IN BUTLER.

Typhoid fever has not been unknown in Butler in the past, although the town has never before experienced a serious epidemic. It is said that there were seven deaths reported from typhoid fever in the month of November, 1902, which, if true, is a fact that the authorities should take into consideration in dealing with the present situation. It seems probable, however, that many of the typhoid fever deaths in Butler prior to the present outbreak were due to the proximity of the town of Pittsburgh, long known as the hotbed of the disease. The close business relations of Butler with the latter city afford perhaps a sufficient explanation for the previous occurrence of occasional, indeed of rather frequent, cases in Butler itself. The records of cases and deaths, however, in accordance with the usual practice of small cities and towns in this country, have been so loosely kept that no exact information has been, or probably ever will be, obtainable.

PRESENT EPIDEMIC.

The present outbreak became first apparent early in November of the current year. On Sunday, November 8, the Butler Board of Health held an all-day session and as a result issued an address to the people of Butler advising them to boil all water used for domestic purposes. This prompt action seems to have been taken at the very beginning of the outbreak. After this date items to the effect that such-and-such a resident of Butler was ill with "the fever" appeared frequently in the local papers. It was not until about a week later, however, that any large measure of alarm began to be felt or expressed. On November 28 the gravity of the situation was manifest and the Pennsylvania State Board of Health was appealed to for aid and advice. Up to noon Saturday, December 5, a total of 1,180 cases had been recorded, and it is known that many more unreported cases actually exist within the city. Up to Saturday night 37 deaths had occurred. It is stated by those most familiar with the situation that over 60 per cent. of the cases have not yet passed the critical stage and it is feared that many more deaths will take place. Seven-

teen deaths have occurred within the last four days for which record is at hand. There is no doubt that the town is terribly stricken. Two, three or even more cases in the same family are not at all uncommon. The writer talked with one citizen who had had eight cases in his own family.

Even at this stage enough is known about the proportions of the Butler epidemic to establish it as one of the most appalling visitations from typhoid fever from which an American community has ever suffered. The disastrous outbreak at Ithaca last spring in a population of about the same size did not reach quite such gigantic proportions, and although the classical epidemic at Plymouth, Pa., in 1884 was probably more severe in proportion to the population of the town, there were in that case even fewer actual cases than at Butler.

SOURCE OF OUTBREAK.

The large number of persons attacked at Butler is in itself sufficient to cast suspicion on the water supply, and this fact conspired with other circumstances to render most plausible the hypothesis of a water-born origin. This suspicion became almost a certainty when the peculiar distribution of the typhoid fever cases became known. It transpired that the part of Butler lying south of the Baltimore and Ohio Railway tracks, and known locally as Springdale, was almost entirely exempt from infection. This district forms topographically and socially part of the town of Butler, and apparently differs only in the fact that it is not provided with city water, but obtains its supply from a number of artesian wells. In this part of the town, with a population of about 2,500, it is stated on high authority that but two cases have developed, one of these being a child who attended school in Butler, the other being a laborer employed in Butler. This remarkable topographical incidence pointed directly to the water supply as the source of the calamity, and further circumstantial evidence to the same effect is not lacking. No suspicious circumstances have been brought to light in the investigation of the milk supply and other theoretically possible sources, while the facts now to be set forth concerning the water supply are of a most significant and damaging character.

CHARACTER OF THE CITY WATER SUPPLY.

The water supply of Butler, which is controlled by a private water company (The Butler Water Co.), has been since 1878 obtained from Connoquenessing Creek and its feeders. The flow of this small stream is at certain times of the year inadequate to the needs of the growing town, and in order to furnish a constant supply the waters of the stream were impounded by a dam at Boydstown, some nine miles above Butler. This in turn did not furnish the required amount of water, and a second dam has been recently constructed on Thorn Run, about four miles above the town. The water seems to have been clarified for some time past by means of a small mechanical filter at the pumping station, a mile and a half above the town on Connoquenessing Creek, and two miles and a half from Thorn Run dam.

INFECTION OF THE WATER SUPPLY.

On August 28, the Boydstown dam was carried out in a flood, and the water company was obliged to use water

from the partly finished Thorn Run reservoir. Water was also pumped directly from the creek at the pumping station, and so scanty was the available supply that it is said that at times practically all the water in the creek was used. In the latter part of October, owing to an accident to some of the machinery at the pumping station, the mechanical filter was temporarily thrown out of use, and it was during this period that the maximum infection undoubtedly occurred.

Unfortunately, throughout the summer and early fall, opportunities for the infection of the Connoquenessing watershed appear to have been only too numerous. A number of cases of the disease existed on the watershed during this period and investigation has shown that there was ample opportunity for the uncared-for dejecta to enter the water of various small runs and tributary streams. At one house not far from the Thorn Run dam, a case of typhoid fever was brought to the family in the latter part of July and was followed by three others in the same household. At another house, on Sullivan's Run, even nearer to the pumping station, two cases of typhoid fever occurred, and it is considered probable that the infectious material from these two cases had a large share in infecting the water of the creek. Health officials who have thoroughly investigated the conditions report that for years cases of typhoid fever have been occurring at various points on the Connoquenessing watershed, and it apparently required simply a series of accidents to precipitate the present catastrophe. The situation is so discouragingly familiar as hardly to need repetition. The infectious materials discharged from the bodies of typhoid fever patients were thrown out on a steep, rocky hillside, or placed in loosely constructed out-houses, where the first heavy rain could wash countless millions of pathogenic bacilli into the water supply of an innocent community.

REMEDIAL MEASURES.

As soon as the existence of the epidemic became known the citizens were warned of the danger of using un-boiled water for drinking and other household purposes. Hardly too much can be said in praise of the early recognition of danger by the local board of health and the prompt measures taken to prevent the spread of the outbreak. The Pennsylvania State Board of Health, likewise, responded at once to the call for assistance and seems to have acted with great promptness and efficiency. The sum of \$2,000 was at once appropriated from the emergency fund at the disposal of the state board, local headquarters were established, the free distribution of disinfectants begun, the thorough inspection of the watersheds set on foot, and an effective system of house control established. A skilled veterinarian was also sent to Butler by the state authorities, and rigorous supervision of the milk supply is being exercised under his direction. The possible infection of utensils used in the distribution of milk is also being guarded against. The conditions governing the water supply are being improved as rapidly as possible. The mechanical filter is now thought to be in good working order, and an experienced water analyst from the Massachusetts Institute of Technology has been recently brought to Butler and placed in charge of the daily tests that are being

made. The results of these tests are said to be very satisfactory.

RELIEF WORK.

When it became apparent to the outside world that the local resources were too seriously crippled to cope with the situation, help poured in on the town from all sides. In Philadelphia a large relief fund was subscribed and a number of physicians and nurses were soon on the ground. A temporary hospital has been established in one of the hotel buildings in Butler under the direction of the Philadelphia contingent, headed by Dr. Morris French. Physicians have also come to Butler from Pittsburgh and many surrounding towns, and a small army of over 100 trained nurses has been hurried in to the relief of the city. The physicians of Butler have from the beginning been in the forefront of the relief work and have sacrificed unsparingly their time and strength with the same single-mindedness so often shown by members of the medical profession in times of great emergencies. Although much outside assistance has been rendered, there is still need for additional help in this direction, and strenuous attempts are still being made to obtain additional nurses and other assistants.

Rumors have been current regarding dissensions among those engaged in the relief work, and in view of these statements the following authorized statement has been issued by the secretary of the executive committee:

I am authorized by the executive committee to state that the reports emanating from unreliable sources published in various papers throughout the country to the effect that the different relief committees and auxiliary committees were not working in unison and that there is conflict and confusion among the members of the committee and coworkers are absolutely false in every particular.

The organizations that have been established within the past week for the relief of the fever victims are working in perfect harmony and there are no dissensions of opinion on account of religious or political creeds.

We are organized for the sole purpose of relieving charitable fever patients and to do all in our power to assist the municipal and other authorities in stamping out the epidemic. The committees are working as a single individual and all the reports to the contrary are absolutely false in every particular. We wish further to state that Mayor Kennedy is an honorary member ex-officio of the executive committee, and is acting in perfect harmony in all matters.

POSSIBLE SEQUELÆ.

As is usual in epidemics of such magnitude as the one now raging at Butler, a considerable amount of secondary infection is to be feared. Already several nurses and physicians and others engaged in relief work have fallen victims to the disease, and even with the utmost precautions it seems not unlikely that cases of typhoid fever will continue to develop. The great attention being paid, however, to methods of thorough-going disinfection should go far to minimize the danger from this source.

Since the sewage of Butler is discharged into Connoquenessing Creek, and since several other communities further down the stream derive their water from this source, great concern has been expressed lest further infection of other communities might be brought about by this means. To forestall this possibility the State Board of Health promptly issued warnings to the towns located along the lower part of the creek, and so early and so great was the publicity given to the matter in this way that it is hoped that the further widening of the Butler calamity may be averted.

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TUBERCULOSIS CONGRESSES.

Last week we printed a communication which called attention to an unsatisfactory condition of affairs, which, while it has been appreciated by all who are acquainted with the facts, was and is being too much ignored by the profession as a whole. It is well known by those who have been giving attention to the subject that the so-called congress on tuberculosis, which has met for the past two or three years in New York, was controlled by those who did not have the confidence of the profession; that it was not noted for its scientific character, but rather for the chance it gave for the exploiting of advertising schemes, fads, etc.

At the last meeting of that "congress" a new set of officers was elected, and while these had not been recognized as authorities on the tuberculosis question, nevertheless it was thought that there was a promise of better things. A meeting was set for July, 1904, at St. Louis, but recently this has been changed to April, 1905, at Washington.

It soon developed, however, that the deposed officers of the former congress were attempting to get up another organization, and they are now arranging for a meeting to be held at St. Louis in October, 1904. The officers of this congress, called the "Bell Congress" by Knopf, have been extremely energetic, for they have not only succeeded in getting delegates appointed by the presidents of state medical societies and by the governors of the states, but have even obtained the sanction and indorsement of the United States Government, and through the State Department are obtaining the official support of our foreign representatives. According to a circular before us, official notification in regard to the "congress" has been sent to all our ministers and foreign representatives. Judging from a letter dated November 3, from the Assistant Secretary of State to Mr. Clark Bell, the letter copied below is "a copy of the instructions sent to Ambassador Choate. The instructions to France, Denmark and The Netherlands are *mutatis mutandis* in the same language." The following is the letter:

Sir:—The Department is informed by Mr. Howard J. Rogers, Director of International Congresses of the Universal Exposition to be held in St. Louis in 1904, that the American Congress on Tuberculosis has been placed on its list of official Congresses and that the dates for said Congress will be October 3, 4 and 5, 1904.

The Department is also advised by Mr. Clark Bell, Chairman of the Committee of Organization of the Congress, that

the Executive Committee and Officers of the Congress have sent to the Government of each American Country an invitation for official representation by its Government, in the Congress; and the request is made of the Department to give such support to the invitation as it properly may.

The humanitarian object which this Congress has in view to reach, by the discussion of scientific men, some result in arresting the spread and averting so far as it may be found possible the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere can not but enlist the sympathy and approval of the Government to which you are accredited.

The Department will, therefore, be pleased to have you say to that Government that this Government is in entire sympathy with its work and would be pleased to learn that the Government of ——— took a like interest in its success by the acceptance of the Committee's invitation, and the appointment of three or more scientific gentlemen to represent it at the Congress.

This Government would also be pleased if that of ——— could find it convenient to comply with the request of the Committee to give the matter publicity in order that it may come to the knowledge of interested organizations and public spirited Citizens of that Country. I am, Sir,

Your obedient servant,
&c., &c.

This letter, without referring to others, is sufficient to show how seriously and earnestly the United States Government has endorsed the movement. The fact that these people have succeeded in obtaining the support of the Government is unfortunate, for as a natural result physicians of foreign countries interested in the subject will be led to come to this congress. If, having come so far, they find that the "congress" is not supported by the better element of the profession—by those prominent in tuberculosis work in the United States; if, to use a familiar expression, they find the play of Hamlet with Hamlet left out, they will feel that they have been imposed on. The results will not be complimentary to us, but will in a measure reflect on the medical profession of the United States, irresponsible as it is for the conditions.

We are neither ready, nor is the time opportune for an international congress on tuberculosis. But when we have one, let it be one that shall have its inception in some reputable and recognized body; one that shall have the indorsement and support of the profession, and especially of those who are recognized as authorities on the subject; one whose utterances shall be authoritative and command respect, and one that shall redound to the credit of America and of which Americans can be proud.

We believe that those who are working in behalf of the organization known as the Lewis-Brown congress are animated by pure motives, and by the belief that its contemplated meeting will be beneficial. Nevertheless, we can not but think that under the circumstances it will be a mistake for them to go on. They have inherited with their "congress" all its former stigma, and the only way to get rid of the stigma is to quietly let the "congress" die and start anew. The title of the Lewis-Brown congress—The American Congress on Tuberculosis for the Prevention of Consumption—is too much like that of the Bell congress—The American Congress on Tuberculosis—and it will be impossible for

them to free themselves from the odium the name carries with it.

As far as the other congress is concerned, the so-called "Bell Congress," it seems to us that the time has come to do something more than simply ignore it. If it is to become a reality under conditions in which it can not receive the support and co-operation of those best qualified to represent the American medical profession in the discussion of the subject, and we believe such to be the case, it is well that the world should know the fact.

MARMOREK'S VACCINE AND SERUM FOR TUBERCULOSIS.

We called attention last week to the fact that Dr. Alexander Marmorek, until recently one of the laboratory chiefs of the Pasteur Institute, Paris, presented a paper to the Academy of Medicine on November 17, in which he described a vaccine and a serum for tuberculosis. The French medical journals containing full abstracts of the paper have now been received.

Marmorek will be remembered as the bacteriologist who, some ten years ago, discovered antistreptococcus serum, and whose investigations in bacteriology have been generally considered of great value. Since he began his studies on the serum for tuberculosis, owing to a difference of opinion with the other members of the staff of the Pasteur Institute, he has resigned his position there and this work has been carried out, and the paper presented, on his own responsibility. While his conclusions can not yet be accepted as proved, there is a possibility that he has made a discovery, or series of discoveries, of prime importance with regard to the toxin of tuberculosis and the biologic method by which the affection may be relieved if not eventually cured.

Marmorek began his present investigations convinced that tuberculin was not the true toxin of the bacillus of tuberculosis. The observations that it fails to cause any reaction in normal individuals, yet produces a marked reaction in those suffering from a mild form of tuberculosis, and only a slight reaction, sometimes none at all, in those suffering from the severer forms of tuberculosis, are a series of contradictions that can not, he holds, be reconciled on any theory of the action of this supposed toxin. Beside, the reaction after an injection of tuberculin usually does not occur for several hours and sometimes longer. Marmorek considers, then, that the rôle of tuberculin is to cause an excitation of any tubercle bacilli present, as a result of which they produce the toxic materials whose absorption brings about the febrile reaction. Tuberculin acts, to use his figure, somewhat as a key does in a lock unlocking the latent toxic powers of the tubercle bacilli present. With this view in mind Marmorek looked for another toxin of the tubercle bacillus and believes he has succeeded in finding it.

He considered it especially important to have the tubercle bacilli in his culture media maintain the staining characteristics which they originally possessed. Any

modification of this he considered due to an alteration in their vitality. The only medium on which he could grow successfully these "primitive," as he calls them, tubercle bacilli, was a leucotoxic serum obtained by injecting the white cells of smaller animals into the calf. To this leucotoxic material was added bouillon made from the liver of animals and a slight amount of glycerin. The reason for using the liver bouillon is that this organ seems to be especially refractory to attack by the tubercle bacillus. Hence, Marmorek argues, when tubercle bacilli can be made to grow on liver bouillon, they retain their vitality and virulence to a marked degree.

Bacilli thus grown produce no tuberculin but do produce another toxin. Rabbits especially can be immunized against infection with tubercle bacilli by a properly directed dosage of this toxin. When thus immunized their serum is distinctly antitoxic. This is the serum which, produced in large quantities from horses, Marmorek has used in his observations on the cure of tuberculous animals, including human beings. While working at the serum he succeeded in producing also an antituberculous vaccine. When tubercle bacilli are treated for a long time with leucotoxic serum, and after being heated are added to the antituberculous serum, they are, when injected into animals, absorbed without the formation of abscesses and without causing any general infection. When thus injected they act as a vaccine against subsequent tuberculous infection. The immunity thus obtained has lasted in the rabbit for two months to date.

With tuberculous animals, Marmorek asserts that he has obtained excellent results with his serum. While control animals died or became very ill from tuberculosis, those treated by the serum or the vaccine developed no tuberculosis, or quickly recovered from the incipient stages of experimental tuberculosis. With regard to human beings, his results, he says, are quite as promising, though, necessarily from the limitations of the experimental method, not as definite. At first, of course, he was able to secure for treatment only very far advanced cases. In a number of cases of tuberculous meningitis there was a prompt improvement of symptoms after the injection of the serum, the pulse and temperature were reduced, the paralysis became less marked, even the coma came to an end. But none of the patients survived ultimately the ravages of the disease. In advanced cases of tuberculosis of the lungs, even when there existed cavities and abundant expectoration containing many bacilli, the improvement was very marked and some patients have even been apparently cured, though, of course, a sufficient length of time has not yet elapsed for the definite announcement of a cure.

In surgical tuberculosis, that is, of the bones, the lymph glands, the intestines and the peritoneum, some encouragingly satisfactory results were obtained. Complicated cases of Potts' disease with fistulas and abscesses, and even in one case with paralysis of the lower limbs

THE OWNERSHIP OF THE PRESCRIPTION AGAIN.

The newspapers announce that a druggist in New York was recently compelled to deliver a prescription to a patient, the latter claiming that he was entitled to it, and the claim being upheld by a lower court. This has started the vexed question on its rounds again and the newspapers are, as usual, deciding the matter for us. At times the question as to who owns the prescription is an important one, not only for the physician, but for the patient. For instance, if a physician writes a prescription that contains an ingredient that may be harmful if its use is continued, it is very important that he should have the right to say whether it should be refilled, or whether it should be delivered to the patient. The fact is, after all is said about the matter, the prescription is simply a letter—a note—to the chemist instructing him to do certain things. The physician may write this letter in the common prescription form or he may send a note addressed to Mr. Brown, the druggist, asking him to give the bearer, Mr. Smith, an 8-ounce bottle of compound syrup of sarsaparilla. There is no reason why the patient should have this letter back, any more than if he were given a letter to a merchant asking that he let Mr. Smith have any specified article. Again, the physician may, and often does, telephone to the druggist telling him to put up a certain combination for Mr. Smith, who will call. Or, he may send his office-boy to the druggist with a verbal message for medicine for Mr. Smith, or he may give Mr. Smith medicine direct from his own office stock. The fact is, no one owns the prescription. The druggist has no right to give it to anyone without the physician's direction, and he has no right to refill it without the physician's orders. One newspaper, as an argument to show why the patient should own and have the prescription, says that some prescriptions are very valuable and, having to pay for it, the patient is entitled to it, not only to use for himself, but for his friends. This is a splendid argument, but on which side it should be placed depends on the point of view.

THE CASE OF THE "MODERATE DRINKER."

In a recent inquest in New York, according to press reports, a man has been declared as having died of "refined alcoholism." He was suddenly stricken after a surgical operation and died from what was alleged to be delirium tremens. He had been supposed to be of temperate habits, taking only moderate drinks at morning and night, but it would appear that his system had become disorganized, if not saturated, by the agent and the effects on the nervous system were such as to bring about these results. The verdict may have been a correct one, and based on facts presented. It has long been recognized that alcohol in any dose is not a safe prescription for certain constitutions, but its possibilities of danger have seldom been fully realized. The fact that a large number of persons can apparently thrive while more or less under its influence is no proof that this is the case with all and it is probable that if we had all the facts in every case we would find that those who appear to do well under its habitual use are really none the better for it. Like other poisons, it produces in

some constitutions a sort of habituation. In still other cases the resistance is so strong that its effects are not manifest, but may appear later in transmission to offspring. That alcohol is an influence for good in certain cases is undoubtedly true, but the assertion that it adds to the sum of human happiness can be reasonably criticised. It would indeed seem absurd in view of the immense amount of evil that it creates, but with the almost universal use of alcohol throughout the world in some form or other its advocates have certain specious grounds for their position. Nevertheless it may be, like certain diseases which are accompanied with a special euphoria, as damaging in one case as in another. If all men could get the exalted delusions of paresis the sum of human happiness would certainly be greatly increased for a time, but it would only mean irreparable damage to the nerve centers. We may say the same of the pleasures of alcohol, and if it is dangerous to the system, is followed by reaction and tends to racial and individual degeneration, all these things ought to be considered before we speak of its advantages.

Medical News.

MARYLAND.

Epidemic Ends.—Dr. J. H. Drach, Butler, health officer of the Mount Carmel district of Baltimore County, reports that the diphtheria epidemic there is at an end, and that no further deaths have been reported. The epidemic was much aggravated by a dread of antitoxin for a time by the people.

The Same Old Disease.—A "mysterious contagious disease," variously diagnosed as "smallpox," "chicken-pox" and "Cuban itch," has been prevailing for some weeks in Frederick, Clarke and Jefferson counties, just across the Maryland border. Whole communities are in quarantine, and it is being treated as smallpox.

Requested Not to Spit on Sidewalks.—A committee, consisting of Drs. James W. Humrichouse, Hamilton K. Derr and Luther H. Keller, of the Washington County Medical Society, appeared before the mayor and city council of Hagerstown, December 3, and asked that placards be placed on the street corners, public buildings, street cars, etc., requesting the people not to spit on the sidewalks and floors.

Personal.—Dr. Elijah Williams, Armiger, Anne Arundel County, formerly state senator, has been appointed school commissioner, vice James E. Tate.—The Baltimore county commissioners have appointed Dr. Thomas C. Bussey, physician of the almshouse, and Dr. J. Royston Green, physician of the county jail.—Dr. Samuel T. Heffner has been elected clerk of the Circuit Court of Frederick County.—Dr. George Wells has been re-elected clerk of the Court of Appeals at Annapolis.

Baltimore.

Typhoid at Army Post.—There are eleven enlisted men at Fort McHenry ill with typhoid fever.

Senses Hospital Incorporated.—The tenth Baltimore Eye, Ear, Nose and Throat Charity Hospital was incorporated, December 3, with Drs. James Bordley, Jr., and Harry E. Peterman as attending surgeons. A central site will be selected for the institution.

Appropriations for State Institutions.—The state institutions have put in application for state aid, with the Board of State Aid and Charities, amounting to \$2,724,990 for the next two years. The amount now being received by these institutions for the same period is \$1,293,382.

November Mortality and Morbidity.—The mortality report for November shows 756 deaths. Pulmonary tuberculosis leads with 102; next comes pneumonia, with 94; heart disease, 69; Bright's disease, 67; cancer, 27; diphtheria, 21, and typhoid fever, 19. Diphtheria and scarlet fever were the most prevalent infectious diseases.

Thousands for Charity.—Nine thousand one hundred and fifty-six dollars was realized for charity at the annual banquet

of the Hebrew Benevolent Society December 3.—A Christmas sale for the benefit of the Crippled Children's Hospital was held at the Arundel Clubhouse December 4 and 5.—The fair held at University Hospital last week by the Ladies' Auxiliary realized more than \$1,700.

Reappoints Medical Department Staff.—Dr. James Bosley, health commissioner, has reappointed the medical officers of his department, including Dr. C. Hampson Jones, assistant commissioner; Dr. W. Royal Stokes, bacteriologist; G. W. Lehman, chemist; Dr. Nathaniel G. Keirle, medical examiner; Dr. Bernard P. Muce, assistant examiner; Dr. Alan W. Smith, throat inspector; Dr. Sydney O. Heiskell, quarantine physician, and Dr. Thaddeus W. Clark, assistant quarantine physician.

Personal.—The governor has reappointed Dr. William H. Welch president of the State Board of Health.—Dr. Albert D. Foster of Detroit has assumed charge of the immigrant service of this port and has reported for duty as surgeon, vice Dr. W. M. Glover, transferred to Victoria, B. C.—Dr. William N. Bispham, post physician at Fort McHenry, has been ordered to take charge of the hospital at Fort Logan, Colorado. He will be succeeded by Capt. Edward R. Schreiner of Fort Howard.

Munificent Bequests.—Mr. William Wyman, the benefactor of the Johns Hopkins University, through whom that institution received one year ago a magnificent tract of land in the northern suburbs, and a contribution of \$1,000,000 from the community, died last week. By his will he leaves his entire estate, estimated at \$500,000, less \$108,000 in special legacies, to his daughter, who is a widow, and in the event of her death to Johns Hopkins University.

Filtration System Recommended.—A special sewerage report, submitted to the mayor and board of estimates by the city engineer and water engineer, recommends the filtration system at an expense of \$6,000,000. The commission estimates that not over 50 per cent. of the water consumption will get into the sewers. The estimate is for a million population, and provides for the present only pumping machinery, discharge mains and filtration fields for 600,000, which is slightly in excess of the population of the city. "Each property should only be directly charged with the cost of the necessary connection from the house to the sewer, as is now done with the water service."

MASSACHUSETTS.

Sewage Disposal.—The city council of Fitchburg has voted the sum of \$445,012 for the construction of new sewage disposal beds.

Insane Hospital Reports.—The Worcester Insane Hospital reports a daily average of 1,125 patients; \$83,700 is asked of the legislature for needed additions and alterations.

How Scarlet Fever is Spread.—Two cases of scarlet fever, so mild that they were not discovered till the "peeling" stage, have caused a large series of cases in West Springfield.

Scarlet Fever Closes School.—The illness of a teacher with scarlet fever in the high school at Danvers, together with the unusual prevalence of the disease, has closed the school for the present.

Physician and Nurses Exonerated.—The trustees of the State Hospital at Tewksbury have decided that the recent poisoning of several men by belladonna or atropin was the result of the act of some degenerate or criminal inmate. The nurses and physicians are completely exonerated.

Anthrax Treated at Lynn.—Of the four cases of anthrax recently treated in Lynn, three patients recovered. One of these refused operation with free excision employed in treating the others, and received instead carbolic injections under the skin and mercuric chlorid applications wet and dry.

Leaves Estate for Hospital.—Stephen Symmes left his estate to the town of Arlington for the establishment of a hospital. As the location proved to be unsuitable, the Supreme Judicial Court gave permission to sell the property, and the \$4,700 thus realized will be employed toward the erection of a hospital.

Tuberculosis Fund Exhausted.—The Massachusetts fund to pay farmers for tuberculous cows condemned by the state cattle bureau has been exhausted. As a result 200 diseased cows have been released from quarantine. No further work can be done till a new appropriation is secured from the next legislature.

Spring Water Causes Typhoid.—The occurrence of a number of cases of typhoid fever in Springfield, Mass., recently noted, led to sending samples of "spring water" sold in the city to

the State Board of Health for analysis. Their report absolutely condemns seven springs, five of them located in the public park system. Several other springs are below standard and the owners have been warned. Springfield has a good municipal water supply, but owing to the color of the water many citizens have been buying their drinking water from the owners of these contaminated springs. The epidemic of typhoid was promptly checked by the measures taken by the local health board.

The Williamstown Epidemic.—The report of Dr. George A. Soper, the sanitary engineer of the New York Board of Health, summoned to Williamstown by President Hopkins, shows that the recent outbreak of typhoid fever at Williams College was caused by infected cream eaten with breakfast food. The can of cream was placed in a vat of contaminated water to cool, and became itself accidentally infected.—The final step in regard to the typhoid fever at Williamstown has been for the boards of health of that town and of North Adams, which adjoins, to call on the State Board of Health. Drs. S. L. Morse and William S. Johnson have accordingly been sent to investigate thoroughly the typhoid situation in both places.

Boston.

The "New Boat" Fund of the Boston Floating Hospital has reached \$5,895.

Bequest.—George O. Smith left by will \$5,000 to the Massachusetts General Hospital.

Music at Hospitals.—During December musicians employed by the Hospital Music Fund will visit the Woman's Charity Club Hospital, New England Baptist Hospital, and the Children's Hospital.

Building Nearly Ready.—The new building for the Industrial School for Crippled and Deformed Children, in which many Boston physicians are interested, located on St. Botolph Street, near Massachusetts Avenue, is nearly completed. The quarters on Newbury Street have been overcrowded for more than three years.

Hospitals Benefit.—By the will of George W. Boyd of Boston the Children's Hospital receives \$5,000.00; the Maine General Hospital \$7,500, and under certain conditions the Massachusetts General Hospital \$25,000. The residue, which is likely to amount to about \$100,000, will be distributed to charitable organizations at the discretion of the executors.

The Convection of Typhoid.—C. E. A. Winslow reported before the last meeting of the Boston Society of Medical Sciences that examination of the hands of school children, students and servants showed the presence of colon bacilli in from 5 to 10 per cent. of the individuals examined. The experiment was used as a side-light in the way in which typhoid bacilli are transferred from case to case.

Death and Disease.—The total number of deaths in Boston for the four weeks ended December 5 was 763, 75 less than in the corresponding period last year. The annual death rate was therefore 16.48 per 1,000. Of these deaths 100 are from pneumonia, 3 from whooping cough, 100 from heart disease, 28 from bronchitis, and 15 from marasmus. There were reported 238 cases of diphtheria, with 22 deaths; 131 cases of scarlet fever, with 1 death; 77 cases of typhoid fever, with 16 deaths; 474 cases of measles, with 9 deaths; 128 cases of tuberculosis, and 90 deaths, and 1 case of smallpox.

MINNESOTA.

Hospital Incorporated.—St. John's Hospital, Red Wing, has been incorporated with a capital stock of \$35,000.

Smallpox.—For the week ended November 23, 28 cases of smallpox were reported, 10 of which were from Maine Prairie Township, Stearns County.

Campaign Against Tuberculosis.—A committee on organization to carry on the fight against tuberculosis in Minneapolis and St. Paul, has been appointed, consisting of eleven physicians and five laymen, with Dr. Henry M. Bracken as chairman.

To Placard Consumptive Homes.—An ordinance prepared by Dr. E. H. Whitcomb, assemblyman of the St. Paul City Council, provides that all physicians shall report cases of tuberculosis to the health commissioner. Houses where consumptives have died or from which they have moved will be placarded with the information that they are infected. The ordinance will be proposed for passage.

NEW HAMPSHIRE.

Unregistered Practitioner Fined.—Ferdinand Alfred Trudeau, Somersworth, was arrested, November 11, charged with the un-

authorized practice of medicine. He pleaded guilty, was sentenced to imprisonment for three months in the county jail, and to pay costs, and the sentence was suspended on promise of good behavior.

New Hospital.—Exeter is to have a fine new hospital at a cost of \$20,000. Plans have already been accepted for a brick building of two stories in height, with two long wings one story high, one for medical, the other for surgical cases. Broad connecting corridors and wide verandas will join the buildings and furnish out-of-door protection for isolation and fresh air.

Many Offices for One Man.—The mayor of Nashua, in investigating a suit brought against the city by Dr. Charles E. Congdon to recover \$1,625 claimed to be due for services rendered, states that he has discovered that the plaintiff was drawing four different salaries and holding four different offices at the same time, namely: city physician, \$500 per year; member of the board of health, \$100 per year; physician in charge of smallpox patients, \$10 per day, and inspector for the board of health, \$3 per day.

Urge State Sanatorium for Consumptives.—At its 84th annual meeting held in Lisbon, November 12, the White Mountain Medical Society unanimously adopted the following preamble and resolution:

WHEREAS, From 75 to 80 per cent. of the people affected with consumption are among the poor, who are unable to place themselves under scientific medical and sanitary treatment, without help, and whereas the only hope of such help is through state aid, and

WHEREAS, As this is a question of utmost importance to physicians, humanitarians, and in fact all people who are interested in the welfare of the state, be it

Resolved, That the White Mountain Medical Society emphatically endorses the movement looking towards the establishment of a state institution for the cure and treatment of this class of unfortunate human beings.

NEW JERSEY.

Personal.—Dr. J. Alexander Browne has been elected health officer of Paterson, vice Dr. Bryan C. Maginnis. The governors of the Atlantic City Hospital have appointed Dr. W. W. Miller, Philadelphia, a graduate of Jefferson Medical College, resident physician, to fill the vacancy made by the resignation of Dr. Milton Ireland.

The Mosquito Must Go.—A national anti-mosquito association is announced to be organized at a meeting, December 16, under the auspices of the governor of the state. Representatives of the Department of Entomology at Washington, and delegates from several states are expected to be present. Plans are to be formulated for the extermination of the pest.

To Regulate Barbers.—The Atlantic City Board of Health has adopted rules for the proper regulation of barber shops, which in brief are as follows: Barbers must wash hands before attending each patron; styptics to be used in powder only; no powder puffs; towel for one person only; no sponges; mugs and brushes washed after each use; combs, razors, etc., cleansed after each use; floors swept or mopped every day; hot and cold water in every shop, and conspicuous display of regulations in each shop.

Officers Elected.—At the annual meeting of the William Peirson Medical Association of Essex County, the following officers were elected: President, Dr. Thomas W. Harvey, Orange; vice-presidents, Drs. Richard C. Newton, Montclair, and Joseph C. Young, Newark; secretary, Dr. Richard D. Freeman, South Orange; treasurer, Dr. John H. Bradshaw, Orange; librarian, Dr. Henry A. Pulsford, South Orange, and council, the officers, and Drs. William B. Graves, East Orange, Mefford Runyon, South Orange, and Theron Y. Sutphen, Newark.

Epidemics.—Diphtheria is said to be epidemic at New Brunswick, where 35 cases have been reported. It is asserted that the epidemic originated in the concealment, by a physician, of the first case. A "strange disease, resembling scarlet fever, but more rapid in causing death," is said to be raging in Helmetta. Seven deaths have occurred, the public schools have been closed, and an isolation hospital has been established. Four cases of smallpox have been discovered in a tenement house in Hackensack. Camden has four cases of smallpox in its isolation hospital.

NEW YORK.

Epidemic Feared.—An epidemic of diphtheria is feared at Inwood, Long Island, where nine cases have occurred, with two deaths.

Personal.—Dr. Edward F. Brush, mayor of Mount Vernon, has appointed Dr. Archibald M. Campbell, president of the board of health.

Octogenarians Still Practice.—Syracuse has four physicians each more than 80 years old who are still in practice. They are Drs. Alexander Jones Dallas, a graduate of 1844, Edwin Robinson Maxson and Alfred Mercer, who began practice in 1845, and Henry Darwin Didama, who has been in practice only since 1846.

Smallpox.—The State Health Department, on November 28, issued a list showing the prevalence of smallpox and stating that health officers are generally alive to the situation, but receive indifferent support or actual opposition from local boards and citizens in the enforcement of vaccination and quarantine. At Medina there are 92 cases, and one or more cases are reported from 12 other places.

Authorities at Variance.—Dr. Charles S. Howard, president of the board of managers of the Elmira Reformatory, says that there were 80 cases of diphtheria during a certain period; Superintendent Robertson avers that there were but 53. Dr. Howard believes the typhoid epidemic was caused by city water, used when the reformatory plant was out of order, but Dr. Robertson stated that the water used was filtered.

New York City.

Pneumonia Death Increase.—An alarming increase in the pneumonia death rate in Greater New York, is reported for the week ended November 28, as compared with the corresponding week of 1902.

Personal.—Dr. Louis Schaefer, house surgeon at St. Catherine's Hospital, Brooklyn, on completing his term of service was given a dinner by his associates at the hospital. He is succeeded by Dr. Frank D. Jennings. Dr. Francis H. Miller, Brooklyn, was painfully injured in a runaway accident December 1. Dr. Lawrence J. Gerald, of the medical staff of the Long Island State Hospital, has been appointed assistant surgeon at the Soldiers' Home, Bath.

German Hospital Library Fund.—The physicians of the German Hospital and Dispensary, after striving for over thirty years to collect valuable medical books, decided that it was best to dispose of the library. It was accordingly sold to the Kings County Medical Society for \$3,000, and this sum was then presented to the New York Academy of Medicine with the understanding that it should be known as the German Hospital and Dispensary Library Fund.

Hospital Items.—The new Plant Pavilion to be added to St. Luke's Hospital is to have the innovation of a roof garden. The report of the experimental hospital on North Brother Island for the treatment of consumptives is very encouraging. Of the 127 cases admitted to the institution since May 8, 84 have been discharged. Memorial Hospital, Brooklyn, took possession of its new quarters November 15. It has accommodation for twenty patients. St. Vincent's Hospital, West New Brighton, Staten Island, was formally opened November 26. The site and buildings cost \$35,000. A new laboratory building and dormitory for Willard Parker Hospital, are planned to cost \$100,000.

Buffalo.

The Meltzer Reception.—A reception was tendered to Dr. Samuel J. Meltzer, New York, by Dr. Matthew D. Mann, dean of the medical faculty of the University of Buffalo.

Army Surgeon Buried.—Dr. Charles A. St. John was given a military funeral November 28. He was a contract surgeon in the Army and fell in a skirmish in the Philippines. Although his death occurred two years ago his body reached Buffalo only this week.

PENNSYLVANIA.

Village in Quarantine.—The village of New Benton has been quarantined by the State Board of Health because of the refusal of the authorities to take steps to stamp out smallpox.

The Butler Disaster.—The epidemic of typhoid fever at Butler is fully treated in the Special Article on pages 1476 and 1477 of this issue, written by our special commissioner sent to Butler.

Dr. Pryor in Philadelphia.—On invitation of Dr. John M. Fisher, president of the Philadelphia Obstetrical Society, Dr. William R. Pryor, New York, delivered an address on "Puerperal Sepsis" before that body. He was afterward entertained at a dinner, and a reception and smoker were given in his honor.

Free Lectures on Hygiene and Sanitation.—Under the auspices of the Academy of Natural Sciences, Philadelphia, a series of free lectures on hygiene and sanitation is being given by Dr. Seneca Egbert, professor of hygiene in the Medico-Chirurgical College. The series includes lectures on the fol-

lowing subjects: Hygiene of the Individual; Hygiene of the House; Hygiene of the City and State; Sanitary Education of the Citizen.

Contagious Disease in Philadelphia.—The number of new cases of smallpox has been increasing gradually from week to week. For the week ended December 5 there were 99 new cases with 15 deaths. The department of health continues its crusade of vaccination; the hospitals urge vaccination on all their patients; firms plan to have their employees vaccinated; the press advocates vaccination, but still many foolishly refuse protection. As convincing evidence of the value of vaccination, it is a fact that with the prevalence of the disease few, if any, cases have occurred among the crowded foreign population, they having been compelled to be vaccinated before or at the time of immigrating. Director Martin says that of the many cases at the Municipal Hospital none had been vaccinated. There were also for the week a large number of new cases of other contagious diseases: of diphtheria, 93; scarlatina, 126; typhoid fever, 91. There are in the city a large number of cases of influenza of moderate severity.

VERMONT.

College Burned.—The medical college building at the University of Vermont, Burlington, was burned to the ground, December 2. The loss of \$20,000 is covered by insurance.

Much Diphtheria and Scarlet Fever.—On account of the prevalence of diphtheria and scarlet fever in Brattleboro, the public schools have been closed for two weeks.—A case of smallpox in Wilmington has led the selectmen to close the schools and to forbid all public gatherings for a period of two weeks.

College Opens.—The exercises preliminary to the opening of the fifty-first year of the medical department of the university were held, November 28. Addresses were made by President Buckham, and by Dr. William M. Bryant, Ludlow, president of the state medical society, whose subject was "The Ideal Physician."

Unvaccinated Teacher Recovers Salary.—Miss Rose Murray, a teacher in a district school, in which smallpox broke out, who had never been vaccinated and was on that account suspended, has sued the town of Bennington for wages and costs amounting to \$56. On November 7 she secured judgment against the town.

State Society Meeting.—The ninetieth annual meeting of the Vermont State Medical Society was held at Bellows Falls, October 14, 15 and 16. The following officers were elected: President, Dr. William N. Bryant, Ludlow; vice-president, Dr. Patrick E. McSweeney, Burlington; secretary, Dr. George H. Gorham, Bellows Falls; treasurer, Dr. Bingham H. Stone, Burlington; auditor, Dr. John H. Blodgett, Saxton's River; board of license censors, Drs. Henry James, Waterbury, Schuyler W. Hammond, Rutland, and J. Sutcliffe Hill, Bellows Falls, and Dr. Henry D. Holton, Brattleboro, delegate to the American Medical Association. The society will meet next year in Rutland.

GENERAL.

Outdoor Tuberculosis Camp for Navy.—Pensacola, Fla., climate having been recommended for consumptives, the Navy will establish a camp there and treat tuberculous patients by the open air and forced food methods of treatment.

Personal.—Dr. H. C. Sloggett has been appointed medical superintendent of the Hawaiian Territory Insane Asylum. Dr. W. H. Mays has been in temporary charge.—Dr. C. R. McLean was appointed government physician for Lihue and Koloa, succeeding Dr. E. S. Goodhue, resigned.

American Association of Life Insurance Examining Surgeons.—The annual meeting of this association will be held at Atlantic City, N. J., June 6, 1904, under the presidency of Dr. Charles Lyman Greene, St. Paul, Minn. Dr. Denslow Lewis, Chicago, is chairman of the executive committee.

CANADA.

New Montreal Hospital for Contagious Diseases.—The plans of the new Alexandra Hospital have been accepted. It will be erected soon at Point St. Charles, and will cost \$100,000.

Personal.—Dr. John W. Scane has been appointed registrar of the Faculty of Medicine of McGill University, Montreal, in succession to Dr. von Eberts, who resigned a short time ago. Dr. Scane recently has been an assistant to the professor of physiology.

Poisonous Drugs Used in Liquors.—The attention of the dominion government and of the Quebec legislature is to be directed to the allegation that poisonous and deleterious drugs

are at present being used in the compounding and manufacture of liquors in that province.

McGill To Have Physiology Course Enlarged.—Principal Peterson of McGill University announces that there will very shortly be established a new faculty making physiology as much of an arts subject as it is now one of medicine. In time it is hoped to construct a new building for this faculty.

Annual Report Notre Dame Hospital, Montreal.—During the past official year 2,433 patients were treated, with a mortality of 7.6 per cent. In the out-patient department there were 21,245 consultations, and over 1,000 ambulance runs. The financial affairs were satisfactory, there being a balance to the good of \$4,731. The contagious hospital in connection with this institution will be erected in the spring, and a new four-story hospital building in the form of a cross will soon follow. The plans for the latter structure are ready.

Kingston Hospital Troubles.—The board of governors of the Kingston, Ont., General Hospital, on the resignation of Medical Superintendent Haig, who has gone to England, appointed a woman without medical training as superintendent, stating that financial conditions would not permit the appointment of another salaried male superintendent. The three house surgeons are said to have then resigned in a body, refusing to take their orders from anyone but a properly qualified medical man. The medical members of the board strongly opposed the doing away with a medical superintendent.

FOREIGN.

Virchow's Library.—The most valuable portion of Virchow's library has been presented by his widow to the library of the Berlin Medical Society. These six or seven thousand volumes are to be kept separately as the Virchow collection.

The Austrian Trouble.—At the first session of the Austrian parliament protests against the recent aspersions cast on the medical profession were presented by three separate groups of members. The Vienna professors against whom the denunciations were made, to which reference has been made in these columns recently, are all of Jewish extraction, and the whole trouble is probably mainly the result of antisemitic agitation.

The Vidal Test in School Inspection.—The German authorities have recently issued a notice to the effect that children suspected of typhoid may have a drop of blood taken from the ear or finger for the Vidal test by the medical inspectors, but the consent of the parents must first be obtained and the school authorities notified. Compulsory enforcement of this diagnostic measure must not be permitted under any circumstances.

Personal.—Dr. A. P. Peck, missionary in China of the American Board of Commissioners for Foreign Missions, has been appointed by the Chinese government medical officer in charge of the quarantine station at Taku.—Dr. J. N. Langley has been elected professor of physiology at Cambridge University, England, as the successor of Sir Michael Foster. Dr. Langley, the editor of the *Journal of Physiology*, has been, during the absence of Sir Michael Foster, deputy professor of physiology.

Muenchener Klinikerschaft.—The medical students at Munich have organized a society with this euphonious title. Professor G. Klein was invited to address the first meeting, and spoke on "Physician and Client." The professors and students of Brussels have organized a somewhat similar society and inaugurated an innovation, the "medical day." The meetings of the society are held on the second Saturday in the month, and on that day all the clinics and hospitals are thrown open to the members, the visitors being personally conducted by the professors or chefs de service to the specially interesting cases. It is hoped that out-of-town physicians will also join the society and come up for these medical days as a kind of post-graduate instruction.

Plague Prophylaxis in India Abandoned.—It is reported that England has abandoned the endeavor to stop the ravages of the plague in India by the use of prophylactic injections of serum. Although over two million people have died from the disease in the last few years and commerce has greatly suffered, the authorities have decided that the resistance and ignorant discontent of the natives are too much for them. After trying isolation, segregation and inoculation, the government finds that it is only undermining its power in the country. It would seem that England was as capable of giving a thorough test to the matter as any government, and the results are therefore of practical interest to the United States, as well as other nations which have oriental colonies.

LONDON LETTER.

Increase of Lunacy in Ireland.

From time to time statistics have been published in *THE JOURNAL* showing an increase of lunacy in Great Britain. But certain Irish figures recently published are still more alarming. At a conference of the Irish District Asylum Committee in Dublin Dr. O'Neill read a paper showing that, notwithstanding a yearly decreasing population, insanity was rapidly on the increase. In 1880 the number of persons under treatment was 250 per 100,000 of the population, whereas in 1902 the figures reached the appalling total of 499, an increase of 100 per cent. Emigration and agricultural depression are undoubtedly special reasons for the increase of insanity. The country had been drained of its manhood, and there is a tendency to the depreciation both of the physical and mental condition of the old people remaining. Importance must also be attributed to the agricultural depression that followed in the track of emigration, the inability to make ends meet, the want of nutritious food, and the necessarily accompanying worry wearing the people down. The excessive use of alcohol is another cause. Of the 34,349 admissions during the last 10 years intemperance was the assigned cause in 3,098 cases. Dietary is another matter of importance. Formerly the staple food of the country was porridge, milk, potatoes and butter, which was wholesome, sustaining and nutritious. Tea drinking in excess was given as an indirect factor in inducing insanity.

Diploma in Tropical Medicine Inaugurated at the University of Cambridge.

The great progress in tropical medicine in this country, shown by the establishment of two schools, one at Liverpool the other at London, the numerous expeditions despatched to the tropics, and the remarkable discoveries made by them are fittingly crowned by the establishment of a "Diploma in Tropical Medicine" at the University of Cambridge. The ordinary medical curriculum is no longer regarded as by itself sufficient to fit graduates in medicine for the special conditions attending practice in the tropics. The special board of medicine propose (1) that an examination in tropical medicine and hygiene be held once a year, or more than once if thought expedient; (2) any person whose name is on the medical register to be admitted a candidate under such conditions as the State Medicine Syndicate may prescribe, provided that a period not less than 12 months shall have elapsed between the attainment by the candidate of a registrable qualification and his admission to the examination; (3) the subjects of examination to be nature, incidence, prevention, and treatment of epidemic and other diseases prevalent in tropical countries, and (4) that a candidate who passes the examination be entitled to a diploma testifying to his competent knowledge of tropical medicine and hygiene. 1. Candidates shall present evidence, approved by the syndicate, that they have diligently attended, at home or abroad (a) a course of laboratory instruction in pathology, including parasitology and bacteriology in relation to tropical disease; (b) a course of clinical instruction at a hospital in which cases of tropical diseases are received; (c) a course of instruction in hygiene and in methods of sanitation applicable to tropical climates. 2. Candidates may present dissertations, memoirs, or other records of work carried out by themselves on subjects connected with the nature, incidence, prevention or treatment of tropical diseases, and such records will be taken into account by the examiners in determining the result of the examination.

Correspondence.

"How to Write a Medical Article—A Plea for Plagiarism."

SAVANNAH, GA., Dec. 2, 1903.

Dr. G. Frank Lydston, Chicago:

My Dear Doctor:—On Saturday last a friend informed me of a communication from you in the *Atlanta Journal* pertaining myself; I tried to secure a copy without avail; and was about to write you yesterday when another gentleman apprised me of another communication from you in this week's issue of *THE JOURNAL* of the A. M. Ass'n which I had not seen and which I have not yet had an opportunity of reading but was informed of the nature of your communication which was quite an unexpected surprise to me. And without a full explanation from me of the matter, I can appreciate your position.

For several years I have been editing a medical journal, as well as doing a large practice, and have been compelled to rely largely on my stenographer for clerical office details, as well as my proof reading, which I trusted to her care for correction; prior to this incident she has made very few errors or omissions; in fact, she has been painstakingly careful and correct in the work assigned, until I trusted implicitly.

In the preparation of my paper for the Georgia State Medical Association I found that my views and your own on the subject were so near alike that I decided to use a few paragraphs which I "blue penciled" and instructed my stenographer to use and give you due credit for same, noting page and title of your book. I also instructed her to make a carbon copy at the same time and send it to the *Annals of Gynecology and Pediatrics*, Boston, which she did, and forwarded same before I had the opportunity of seeing it. I found out at the last moment I could not attend the meeting of the state association and handed my paper over to a friend that night (April 14, 1903).

Complications of a political nature demanded my presence at the meeting on the last day, and in company with several physicians I arrived at the meeting on the last day when the program of the association was nearing its end. My paper was read by title without my ever having read it over. In this way my stenographer's error escaped my notice. The galley proofs from the *Boston Journal* and from the transactions were gone over by the stenographer, and again the oversight was not detected.

Preparatory to moving, on October 1, my library and journals were packed in boxes the middle of September, and in this way the volume of the transactions, together with the *Boston Journal* and reprints were packed away for about five weeks awaiting the arrival of new book cases which were delayed in transit. In this way I had not had an opportunity to see the transactions or to look over the journal.

I first discovered the error last week, when my friend mentioned to me your communication in the *Atlanta Journal*; then I examined the copy of the transactions and hunted up the journal, and was horrified beyond description to find that you had not been given proper credit for paragraphs used. And, as stated before, I was about to write you when another friend apprised me of your communication in *THE JOURNAL* of the American Medical Association. I now hasten to make apologies for my seeming plagiarism.

I beg to offer herewith deposition from my stenographer covering this unfortunate occurrence, with my most profound regrets, and beg of you to accept my sincere apologies for my seeming imposition on you; and respectfully request you to make such retraction from your recent communication in *THE JOURNAL* of the American Medical Association, as your gentlemanly conscience may direct you, and to publish the same in next week's issue of *THE JOURNAL* of the American Medical Association.

Believing that a gentleman's honor, after proper explanations and apologies have been made, will not suffer at your hands, and thanking you in advance, permit me to remain,

Yours very fraternally,

W. E. FITCH, M.D.

[Accompanying the above letter was a deposition made by Dr. Fitch's stenographer corroborating the above and assuming all responsibility for the article.]

CHICAGO, Dec. 4, 1903.

Dr. W. E. Fitch:

Dear Sir:—I shall take great pleasure in publishing your letter and the attached affidavit. I will state that my critique was based, not only on the article in the *Annals of Pediatrics and Gynecology*, but on a reprint received from you by one of my friends. I would suggest in passing that it is hardly fair to the profession for one to publish as original articles copied verbatim from text-books by an amanuensis. I would further remark that, in justice to yourself, you ought at least to look over the proofs of your articles or read them after they are printed and before sending out your reprints. I assure you, my dear sir, I do not feel that the matter under con-

sideration was so much a grievance to myself as a violation of a principle in which we are all interested. There is nothing in my critique which calls for correction or apology. The facts alleged are admitted by you, and nothing is now required further than the publication of your explanation of how it all happened. Very truly yours,

G. F. LYDSTON

Good Men in Bad Company—An Explanation which Explains.

NEW YORK CITY, Dec 3, 1903

To the Editor:—My attention has been called to an advertising circular of the *Medical Brief* in which my name appears as a contributor. Will you kindly permit me to state through the columns of your widely circulated journal that this article on "Fracture of the Radius" was not written for the *Medical Brief*. Some months ago a woman stenographer called at my office and represented that she was in great financial distress and asked me to dictate to her some short article for which she said she would be able to obtain \$20 which was greatly needed at that time to prevent her from being turned out of her home by her landlord. She promised that the article should be offered to the *New York Medical Journal* or to the *Medical Record*, and if not accepted by them she would return it to me. Since that time I have not seen her or the article, nor did I know what had become of it until I saw it advertised as a contribution to the *Medical Brief*. I learn that she has imposed on the generosity of other members of the profession here in this city in like manner. JOHN A. WYETH.

[Does this explain why certain other reputable men appear as contributors to the above so called medical journal, in some instances with photograph?—Ed]

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

A CRANIOTOMY, WAS IT JUSTIFIABLE?

—, WEST VIRGINIA, Nov 27, 1903

To the Editor:—I desire to report a case which was more than interesting to me having practiced medicine less than three years, and one which required more than ordinary thought.

At 6 p. m., on November 4, I was called to Mrs. H., who had been in labor three or four hours and made an examination which revealed R. O. A. position, half dollar dilatation, but no waters. The pains were sharp, cutting and irregular, pulse 82, temperature normal. After an hour the pains became more frequent and sharp, with no tendency to bearing down. She being a primipara, I suggested that she use all effort to expel contents and not cry aloud, gave 20 grains chloral and waited until 10:30, when I again examined and found dollar size dilatation or more, but pains were yet sharp and cutting with only three or four minutes' interval—no waters yet formed. At 2 a. m. examination was again made and the membranes ruptured with less than a pint of water escaping. The pains soon became more severe and cutting, of a continuous character and very high up, after slight massage full dilatation was secured, but the head would not engage. It was then I had Dr. X called in, who examined the patient and agreed with the above findings. Chloroform was at once administered and a high application of the forceps tried, but found to be impossible by either of us, even with external pressure from above. Another physician was called by the husband and he repeated the trial of high application, but failed. I then tried to do a podalic, but could never reach a foot, as did Drs. X and Y, who were also unable to accomplish anything. The woman was then growing cyanotic with some hemorrhage going on all the time, so I decided to do a craniotomy, which was accomplished in a very few minutes at 5 a. m. The child was of medium size, weighing 8½ pounds, and nothing out of the ordinary was discernible. The woman made an uneventful recovery and is now sitting up. Catheterization was necessary for two days after delivery.

Did the case justify operation? Being a young man in the field of medicine, I feel that older physicians should not hesitate to comment.

ANSWER.—We gladly publish the above report of a case as requested but omit name of reporter and place. As the reporter asks for comments we gladly give them.

The case well illustrates a mistake—we hope an uncommon one—of premature and unnecessary operative interference. While the average duration of labor in primiparae is from 16 to 20 hours, a labor lasting 36 to 48 hours is not rare, and calls for no interference unless there is danger to the mother or to the child. So far as the report shows there was nothing abnormal in the labor up to 2 a. m., when the membranes were artificially ruptured. It was a mistake to urge the patient to bear down for the exercise of the voluntary muscles has little effect in dilating the uterus and needlessly wears out the patient. It would have been well to give the patient some relief from her suffering by administering some analgesic. The chloral was all right, but the dose was too small. Morphine would have been much more efficient. A hypodermic injection of ¼ grain would probably have given her some sleep and much relief. Although our correspondent does not describe the condition of the cervix when the membranes were ruptured, it is evident that dilatation was not completed and the bleeding which occurred later during the manipulations was probably from tears in the cervix caused by the forceps or the efforts to turn. The artificial rupture was not indicated and was harmful. The application of the forceps to the head above the brim of the pelvis is always difficult and likely to be dangerous to both mother and child. It should never be attempted unless there is urgent indication. No indication was proved to exist in this case. Unless there was a contracted pelvis the head would probably have molded and descended in the course of a few hours. Finally, after the efforts to extract and turn had been in vain craniotomy was justifiable if the child was dead. Nothing is said on this point. We do not know that any effort was made to find the fetal heart beats. In case of failure to hear the fetal heart the death of the child should be determined by introducing the hand into the uterus and finding whether the cord beats or not. This case shows the importance of knowing the mechanism, progress and prognosis of spontaneous labor in its various manifestations in different individuals, and the danger of premature interference. It shows the importance of adhering strictly to the indications for interference, namely, danger to mother and child. It suggests the rule that when in doubt it is safer to rely on Nature than on interference.—Ed

HEISTER'S SURGERY

FLAGSTAFF, ARIZ., Dec 1, 1903

To the Editor:—I have procured a copy of Heister's Surgery—English edition—a very novel old book, indeed, but, unfortunately, the title leaf is missing and I can not determine the year of publication. I am anxious to know in what year this book was printed and take the liberty of asking your assistance. The author was an operating surgeon as early as 1708. The text refers to events as late as 1736. The German edition must have been written after this.

W. P. SIE

ANSWER.—The first English edition of this work was published by W. Innys, London, in 1743, from the Latin edition (2 vols., Venice, 1740). The fifth English edition appeared in 1753. All the English editions contained the two volumes in one, the first five editions were each composed of an Introduction of XVI pages and two parts, of 476 and 338 pp. respectively, with 38 plates. The sixth and seventh editions were translated from Heister's later editions and appeared in 1757 and 1763, the sixth edition containing XVI, 456 and 404 pp. and 40 plates, the seventh (J. Clarke London) XVI, 456 and 414 pp.

ANALYSIS OF MILK

ST LOUIS, Dec 2, 1903

To the Editor.—Will you give the name of some good book on the quantitative analysis of cow's milk and of condensed milk?

LEO C. HUELSMANN

ANSWER.—Any one of the following we believe will be satisfactory. Outlines of Dairy Bacteriology, by H. L. Russell. Cloth, \$1.00. Analysis of Milk and Milk Products, by H. Leffman. Cloth, \$1.25. Air, Water and Food by Richards and Woodman. Cloth, \$2.00. These books can be obtained of W. T. Keener & Co., Chicago, L. S. Mathews & Co., St. Louis, or any bookseller will order them.

TOOTH EXTRACTION IN PRESENCE OF ALVEOLAR ABSCESS WITH FISTULA

—, WEST VIRGINIA, Dec 2, 1903

To the Editor:—1. Why is extraction of a tooth contraindicated when there is an alveolar abscess with fistula present? 2. When, in a case of this kind, could the tooth be extracted safely?

ANSWER.—1. It is not contraindicated. 2. A tooth of this kind may be extracted safely at any time.

Marriages.

THOMAS W. SHAW, M.D., Worcester, Mass., to Miss Diamond of Hartford, Conn.

WILLIAM KERR, M.D., to Miss Lula Dodd both of Randolph, Iowa. November 18.

CHARLES D. RICKER, M.D., to Miss Lucretia B. Donavin at Baltimore, November 23.

DORSEY W. FELLERS, M.D., to Miss Grace Lechrone, both of Tiffin, Ohio, November 27.

HUGH TUDOR HALL, M.D., to Miss Anna Libbey Aldrich, both of Aiken, S. C., November 26.

GEORGE W. HEMMETER, M.D., to Miss Mae Elsie Thiemeyer, both of Baltimore, November 25.

JOHN HERMAN THIESING, M.D., to Miss Catherine Wulftange, both of Cincinnati, November 18.

MCVEY BEATTY, M.D., Butler, Pa., to Miss Lavinia Virginia Blake, at Baltimore, November 26.

THOMAS B. MORRISSEY, M.D., to Miss Mary G. Hannegan, both of Portland, Me., November 11.

OTIS J. BALDWIN, M.D., Farmersville, Ill., to Miss Edith Austin of Virden, Ill., November 26.

CHARLES B. YOUNGER, M.D., Chicago, to Miss Nannie Ruth Broadus of Lacon, Ill., November 25.

ROBERT McDONALD SHANNON, M.D., to Miss Marie Gabriel Horton, both of Piqua, Ohio, November 26.

THOMAS H. RUCKER, M.D., Arlington, Ind., to Mrs. Josephine Lightner of New Albany, Ind., November 25.

CALEB D. THOMAS, M.D., Philadelphia, to Miss Mary E. Klotz of Lansford, Pa., in New York City, November 24.

WILLIAM L. VAN ORMER, M.D., Schellsburg, Pa., to Miss Sarah Bramwell Shafer, at Frostburg, Md., November 26.

JOHN W. WELLS, M.D., Taylorsville, Ky., to Mrs. Claudia Roby Bealer of Bardstown, Ky., at Louisville, November 25.

Deaths.

William Shaw Stewart, M.D. Jefferson Medical College, Philadelphia, 1863, assistant surgeon in the Federal Army during the Civil War; one of the founders of the Medico-Chirurgical College, for ten years its dean; and successively professor of obstetrics and clinical gynecology, and was professor emeritus at that institution; one of the founders of the American Academy of Medicine; for nine years director of public schools of Philadelphia; a member of the American Medical Association, Medical Society of the State of Pennsylvania, Philadelphia County Medical Society, and the Obstetrical Society of Philadelphia, died suddenly at his home in Philadelphia, November 25, from heart disease, aged 65.

Anthony F. Conroy, M.D. Jenner Medical College, Chicago, 1897, formerly of Chicago, died at the City Hospital, St. Paul, Minn., November 28, from tuberculosis contracted while a prisoner of the British at Pretoria, during the Boer War, aged 38. He was chief surgeon of the Red Cross corps of 150 surgeons and hospital attendants who went to South Africa with the avowed intent of caring for the Boer sick and wounded, but whose motives were impugned by the English.

Henry William Kendall, M.D. Medical College of Ohio, Cincinnati, 1853, one of the oldest physicians of Western Illinois; a member of the American Medical Association and Illinois State Medical Society; major-surgeon of the Fifteenth Illinois Volunteer Infantry and later chief surgeon second division, Sixteenth Army Corps in the Civil War, died at his home in Quincy, November 25, from peritonitis, after an illness of five days, aged 72.

William Millet Huntington, M.D. New York University, 1845, a member of the Vermont Medical Society, and first president of the White River Medical Society, who had practiced in Rochester, Vt., for more than 55 years, died at his home in that city, November 19, aged 84. He served during the Civil War as acting assistant surgeon in the Army, and represented his town in the General Assembly in 1863 and 1864.

Charles A. Dunham, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1880, in charge of the relief work following the fire which devastated Jacksonville, Fla., in 1901; major and surgeon Florida State Troops; surgeon of the First Florida Infantry, U. S. V., in the Spanish-American War, died suddenly from heart disease at his home in Jacksonville, November 22, aged 49.

Charles H. Porter, M.D. Albany (N. Y.) Medical College, 1861, assistant surgeon Sixth New York Volunteer Heavy Artillery throughout the Civil War, formerly a well-known physician of Albany, and for many years treasurer of the New York State Medical Society, died at Canandaigua, N. Y., November 21, after an illness of several years, aged 69.

William H. Jackson, M.D. University of South Carolina, Columbia, 1873, a member of the Erie County Medical Society, New York State Medical Association, American Medical Association, and New York and national associations of railway surgeons, died at his home in Springville, N. Y., from pneumonia, November 28, aged 62.

James R. McIlvain, M.D. Kansas City Medical College, 1882, a member of the American Medical Association, the first physician to locate in Oklahoma, and one of the best-known members of the fraternity in that territory, died at his home in Oklahoma City, November 26, after an illness of three weeks from heart disease, aged 50.

Charles J. Hagan, M.D. Starling Medical College, Columbus, 1864, who while still an undergraduate served as assistant surgeon in the Civil War, and after graduation as assistant surgeon in the Forty-sixth Ohio Volunteer Infantry, died at his home in Keokuk, Iowa, November 30, from dropsy, aged 61.

James A. Lane, M.D. Jefferson Medical College, Philadelphia, 1881, one of the early instructors in the Kansas City Medical College and once president of the Kansas State Medical Society, died at his rooms in Leavenworth, Kan., from tuberculosis, November 27, after an illness of more than a year, aged 50.

Cyrus Edson, M.D. College of Physicians and Surgeons, New York, 1881, for many years an efficient officer of the New York Board of Health, and ultimately health commissioner of the city, died at Roosevelt Hospital, New York, from pneumonia, December 2, after an illness of five days, aged 46.

Valentine S. Benson, M.D. Kentucky School of Medicine, Louisville, 1870, a member of the State Board of Equalization and for four years superintendent of the Illinois Hospital for the Criminal Insane, Chester, died at his home in McLeansboro, Ill., from heart disease, November 27, aged 69.

William J. Dupree, M.D. Vanderbilt University, Nashville, Tenn., 1876, of Westmoreland, Ala., a member of the American Medical Association, was found wandering a long distance from his home, November 26, was taken home, and died the same day without regaining consciousness, aged 48.

Clarence W. Lehman, M.D. Medical College of Ohio, Cincinnati, 1890, of Eaton, Ohio, a member of the American Medical Association and the Ohio State Medical Society, local surgeon for the Pennsylvania Railway, was killed in a collision of trolley cars, near Eaton, December 3.

Albert Blumberg, M.D. University of Würzburg, Germany, 1871, a member of the American Medical Association, a prominent physician of Pittsburg, Pa., was struck and instantly killed by a train at Braddock, Pa., where he had gone in consultation, December 1, aged 55.

Charles S. Boyce, M.D. Jefferson Medical College, Philadelphia, 1877, who was under sentence of imprisonment at Auburn Prison for criminal assault, but had been released on bail a few days before, died suddenly at his home in Salamanca, N. Y., November 19, from paralysis.

Joseph M. Harcourt, M.D. New York University, 1874, a graduate of Trinity College, Dublin, noted as a linguist, a mathematician and an orator, one of the most scholarly physicians of Brooklyn, died at his residence, November 30, after a lingering illness, aged 80.

Daniel James Neylan, M.D. New York University, 1886, at one time assistant surgeon in the Rhode Island Militia; a member of the American Electro-Therapeutic Association, died suddenly at his home in Bristol, R. I., November 26, from heart disease, aged 51.

William H. Holmes, M.D. College of Physicians and Surgeons, New York, 1857, assistant surgeon in the Navy during the Civil War, died at his home in Orange, N. J., November 30, from Bright's disease, after an illness of a year, aged 69.

Addison I. Cammack, M.D. New Orleans School of Medicine, 1866, a leading physician of Waco, Texas, and for many years a member of the local board of health, died at his home in that city, November 25, from rupture of an artery, aged 65.

John Fee, M.D. New York University, 1865, for 9 years city physician of Kansas City, Mo., for several years a surgeon in the Army, died suddenly at his home in Kansas City, from pulmonary edema, November 30, aged 67.

George B. Acker, Jr., M.D. Western Pennsylvania Medical College, Pittsburg, 1897, of Lawrenceville, Pa., died at the home of his parents in Pittsburg, December 1, from pneumonia, after an illness of four days, aged 35.

John McKinnon, M.D., professor of diseases of the kidneys and clinical medicine in the Bennett College of Eclectic Medi-

cine and Surgery, Chicago, died at his home from fatty degeneration of the heart, November 30.

Thomas Fitzhugh Grayson, M.D. University of Pennsylvania, Philadelphia, 1866, the pioneer practitioner of Fort Dodge, Iowa, died at his home in that city, November 22, from gastric trouble of long standing, aged 65.

James R. Adams, M.D. Medical College of Ohio, Cincinnati, 1852, surgeon of the Forty-eighth Indiana Volunteer Infantry during the Civil War, died at his home in Petersburg, Ind., November 29, aged 83.

Nathan H. Brown, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, was stricken by apoplexy at his home in Fremont, Neb., November 28, died early the next morning, aged 51.

Henry H. W. Crittenden, M.D. Washington University School of Medicine, Baltimore, 1867, died at his home in Crewe, Va., November 30, from paralysis, after an illness of two weeks, aged 59.

Thomas Richardson Storer, M.D. Jefferson Medical College, Philadelphia, died at his home on Scenery Hill, near Washington, Pa., November 25, after an illness of two months, aged 61.

Wallace O. Buckland, M.D. St. Louis Eclectic Medical College, 1881, died at his home in Oakland, Cal., from postoperative pneumonia, November 28, after an illness of one week, aged 65.

George P. Campbell, M.D. Bellevue Hospital Medical College, New York, 1870, died suddenly at the foot of his office stairs in Wauseon, Ohio, from apoplexy, November 25, aged 55.

Frank R. Payne, M.D. Western Reserve University, Cleveland, 1889, died at his home in Cleveland, from pneumonia, November 23, after an illness of eight days, aged 37.

James R. Cromer, M.D. Eclectic Medical Institute, Cincinnati, 1874, a retired physician of Flora, Ind., died at his home in that place, December 2, from pneumonia, aged 65.

William G. Saunders, M.D., city physician of Grand Rapids, Mich., about thirty years, ago, died at Butterworth Hospital in that city, November 26, from apoplexy, aged 76.

Michael Heinimann, M.D., a "Forty-niner," who practiced medicine in San Francisco for more than half a century, died at his home in Oakland, November 26, aged 85.

Albert G. Beebe, M.D. Hahnemann Medical College, Chicago, 1869, died at his home in Chicago, December 2, from heart disease, after an illness of four days, aged 60.

J. Franklin Merkle, M.D. University of Pennsylvania, Philadelphia, 1894, died at his home in Perkasio, Pa., November 26, after an illness of several weeks, aged 42.

Welford S. Fisher, M.D. University of Michigan, Ann Arbor, 1903, an interne at the University Hospital, died in that institution, November 30, from typhoid fever.

Thomas S. Freeman, M.D., for more than thirty years a practitioner of Sherman, Texas, died suddenly from heart disease at his home, November 23, aged 76.

Gracia Leah Morehead, M.D. Woman's Medical College, Kansas City, Mo., 1901, died from heart disease at her home in Milwaukee, Wis., December 2, aged 25.

Francis Asbury Pinckard, M.D. University of Maryland, died from paralysis at his home in Pinckardsville, Va., November 30, after an illness of three days, aged 59.

Thomas H. Armstrong, M.D. Starling Medical College, Columbus, 1855, of Woodsfield, Ohio, died at the home of his son in Bellaire, Ohio, November 18.

Andrew J. Comstock, Jr., M.D. Jefferson Medical College, Philadelphia, 1884, died at his home in Ventura, Cal., November 21, after a long illness.

Douglas P. Beatty, M.D. New York University, 1857, formerly of Hull, Ala., was found dead at his home near Kennesaw, Ga., November 26.

David S. Oliphant, M.D. Homeopathic Medical College of Missouri, St. Louis, 1861, died at his home in Toronto, Ont., November 13, aged 87.

Hugh C. Murphy, M.D., died at his home in Kansas City, Mo., November 25, from Bright's disease, after an illness of three weeks, aged 60.

Benjamin N. Ogden, M.D. University of Louisville, 1886, of Oak Hill, W. Va., was found dead in bed at Charleston, W. Va., November 27.

Joshua Warner, M.D., the pioneer physician of Westburg Township, Que., died at his home in East Angus, November 22, aged 80.

Overton Carr Todd, M.D. St. Louis Medical College, 1874, died at his home in Powell, Texas, November 27, from neuralgia of the heart.

Silas W. Kellar, M.D. Western Reserve University, Cleveland, 1885, died at his home in New Kensington, Pa., November 27, aged 45.

Fred Welch, M.D. Dartmouth Medical College, Hanover, N. H., 1894, of Centre Strafford, N. H., died in Montrose, Colo., November 10.

Joseph M. Loop, M.D. University of Michigan, Ann Arbor, 1855, died at his home in Port Sanilac, Mich., recently, aged 93.

Joseph H. Maynard-Bellerose, M.D. University of Vermont, Burlington, died at his home in that city, November 25, aged 39.

D. D. Robertson, M.D. University of Louisville, 1867, died at his home in Calhoun, Ky., November 16, from hepatitis, aged 67.

J. M. Burt, M.D., for ten years coroner of Clarke County, Wash., died at his home in Vancouver, November 11, aged 72.

Andrew J. Salts, M.D., health officer of Corning, Iowa, for several years, died at his home in that city, November 23.

Ralph L. Graves, M.D., a veteran of the Mexican War, died at his home in San Antonio, Texas, November 29, aged 85.

H. L. Stewart, M.D., 1878, died at his home in Humboldt, Ill., November 24, after a long illness, aged 80.

Thomas Hillery Taylor, M.D., of Marshall, Texas, died in that place, November 20, aged 77.

J. Frank Carder, M.D., died at Salem, W. Va., December 1, aged 81.

Deaths Abroad.

Dr. F. Brun, professor agrégé at Paris, and one of the eight co-editors of the *Presse Médicale*, died at Paris, November 10, aged 49. He had made a specialty of surgery for children and had been a prolific writer on this and other subjects. One of his latest works was on the malignant tumors of the kidney in children. He devoted himself to ophthalmology at first, and published a valuable text book on "Thérapeutique oculaire." He succumbed to the progress of a neurasthenic trouble.

Dr. A. A. Proust, the well-known French authority on international hygiene, died at Paris, November 26, aged 69. He has been inspector general of the French sanitary service since 1884, and has published numerous works on public and private as well as international hygiene, and on other matters connected with the public health.

Book Notice.

A TEXT-BOOK OF THE SCIENCE AND ART OF OBSTETRICS. By Henry J. Garrigues, A.M., M.D., Consulting Obstetric Surgeon to the New York Maternity Hospital. With 504 Illustrations. Cloth. Pp. 844. Price, \$5.00. Philadelphia and London: J. P. Lippincott Co. 1902.

This is a companion work to the author's "Text-Book on Gynecology." It is a practical contribution to the literature, and conforms to the high standard of the volume of gynecology. The sections dealing with the development of the ovum, the maternal changes incident to pregnancy, the anatomy of pregnancy, labor and the puerperium are commensurate with the needs of a text-book for the student, and the subjects are adequately stated. The general instructions in the technic of operations, i. e., the treatment of brow, face, occiput posterior, etc., are elucidated after the manner of most books on obstetrics—too much is left to the interpretation of the reader; the steps are insufficiently stated. This is a common fault and can not be held specifically against the work before us. Exception may well be taken to certain statements and directions which are not in consonance with recent opinion. The recommendation that vaginal examinations "should only be repeated with one or two hour interval" does not keep in accord with the necessities of an aseptic conduct of labor; after one thorough diagnostic examination in labor little can be learned by vaginal exploration which can not be equally elicited by the department of the patient and external palpation. In the delivery of the head the slovenly method of Ritgen-Goodell is recommended—of pulling the face down with the finger in the rectum; other methods of enucleating the head not antagonistic to asepsis would meet indications better. With the same tenacity which governs so many obstetric writers, Dr. Garrigues persists in

associating Credé's method of conducting the third stage with what should be described as a physiologic method; "Credé" distinctly is a procedure for a pathologic third stage. The absence of illustrations and detailed description of Mauriceau's (so-called Smellie-Veit) method neglects the most certain, most powerful, least injurious to the child, and most rational delivery of the after-coming head by manual means—in no respect can the Prague or Smellie methods compare to the former. It is a distinct novelty to see an authority of the present time recommending ferric chlorid solutions in a douche or tampon for hemorrhages in placenta previa and postpartum, as their proven dangers far outweigh their slight temporary advantage. The advocacy of the serre-fine for the repair of perineal laceration can not be too strongly condemned; as far as we know these little instruments have been relegated to the museum as they can not compare in effectiveness with properly inserted sutures. The illustrations are in general accurate and depict the essential points of the book—some are new, most, however, are the approved cuts of other works; certain cuts, as in the chapter on the conduct of normal labor, might well be substituted by more approved drawings.

State Boards of Registration.

COMING EXAMINATIONS.

- Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14-16. Secretary, Dr. W. F. Morrow, Kansas City.
 Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.
 Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.
 Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.
 Utah State Board of Medical Examiners, Salt Lake City, Jan. 4, 1904. Secretary, Dr. R. W. Fisher, Salt Lake City.
 State Medical Examining Board of Washington, Tacoma, Jan. 5-6, 1904. Secretary, Dr. P. B. Swearingen, Tacoma.
 Board of Medical Examiners of Arizona, Phoenix, Jan. 4-5, 1904. Secretary, Dr. Wm. Duffield, Phoenix.
 State Medical Examining Board of North Dakota, Grand Forks, Jan. 5, 1904. Secretary, Dr. H. M. Wheeler, Grand Forks.
 Board of Medical Examiners of the State of Oregon, Portland, Jan. 5, 1904. Secretary, Dr. Byron E. Miller, Portland.
 Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Jan. 5-6, 1904. Secretary, Dr. S. D. Van Meter, Denver.
 Minnesota State Board of Medical Examiners, State Capitol Bldg., St. Paul, Jan. 5-7, 1904. Secretary, Dr. C. J. Ringnell, Minneapolis.
 State Board of Health of Rhode Island, State House, Providence, Jan. 7, 1904. Secretary, Dr. G. T. Swarts, Providence.
 Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.
 Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.
 Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.
 Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.
 Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.
 Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.
 Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

Vermont Report.—Dr. W. S. Hammond, secretary of the Vermont State Board Medical Censors (Regular), reports the written examination held at Burlington, July 8-9, 1903, as follows: Number of subjects, 8; questions, 80; percentage, 70; candidates, 23; passed 20; failed, 2. Following are the colleges of the candidates, the years of graduation, the grades attained and the questions asked:

PASSED.

University of Vermont, (1887) 80; (1903) 78, 72, 79, 79, 78, 74, 80, 81, 78, 78,* 80.	
Baltimore Medical College, (1903) 76, 71, 70, 79.	
Tufts Medical College.....(1903)	81
Detroit College of Medicine.....(1900)	70
Columbia University, New York.....(1903)	79
Bellevue Hospital Medical College.....(1894)	70
New York City University.....(1903)	77

FAILED.

Baltimore Medical College.....(1902)	58
Maryland Medical College.....(1903)	58

* This candidate did not take the whole examination; his average is given as 78 for the subjects covered.

PHYSIOLOGY.

1. Give the essential difference between cow's milk and human milk.
2. Describe: (a) striated muscle fiber; (b) unstriated muscle fiber; (c) give an example of each.
3. Describe the fetal circulation. What changes occur in it after birth?
4. Give the physical characters and composition of normal urine.
5. Trace the products of digestion from the intestinal villi to the blood stream.
6. (a) Explain the difference between afferent and efferent nerves. (b) What is the function of the column of Goll and what is its situation in the cord?
7. Locate the following brain centers: Leg, arm, face, speech.
8. Give the histology of the liver.
9. Name five digestive fluids and give the reaction of each.
10. Give the functions of the vasomotor nervous system.

CHEMISTRY.

1. Give formula for converting F. theometric reading to C. scale.
2. What is understood by electrolysis?
3. What are radicals as used in chemical formulas? Illustrate.
4. Give briefly the chemistry of I.
5. Why is calomel contraindicated in a case taking a solution of KI?
6. How would you conduct an autopsy and care for removed organs in a case of suspected arsenical poisoning?
7. What are the principal products of petroleum distillation?
8. Name all the causes of a turbid urine freshly passed.
9. Give a test for bile in the urine.
10. What may high and low sp. gr. in urine indicate?

PATHOLOGY.

1. Give pathology and prognosis for internal otitis following scarlatina.
2. Specify the dangers to be feared in deep cuts of the palm of the hand.
3. What conditions would influence you for, and what against, conservation in a deep buzzsaw cut of the wrist?
4. Give the symptoms, ordinary complications and prognosis in backward dislocations of the ulna on the humerus.
5. Describe the symptoms, pathology and prognosis of empyema and differential diagnosis from ordinary serous pleurisy.
6. Give the symptoms of strangulated inguinal hernia.
7. How would you distinguish between suppression, nervous retention, stricture and enlarged prostate in a person unable to urinate?
8. Give description, etiology and pathology of housemaid's knee.
9. Give the symptoms in fracture of the middle of the fibula.
10. Describe a bunion, giving its etiology and pathology.

SURGERY.

1. If a patient with chronic otorrhea and painful swelling behind the ear had a chill, vomiting, headache, slow pulse, trembling, convulsions or paralysis, what would you suspect and what treatment would you advise?
2. If you found a man at night in a mountain camp, nearly exsanguinated by the hemorrhage from a deep cut in the palm of the hand, what would you do if you had no light but a single tallow dip, no instruments but those in your pocket case and no surgical aid within twenty miles?
3. What would you do for a man who had all the flexor tendons, radial and ulnar arteries and both bones of the fore arm cut off close to the wrist by a buzzsaw, there still being circulation enough to keep the hand warm?
4. How would you treat a backward dislocation of the ulna on the humerus?
5. How would you treat an empyema?
6. What would you do for an old reducible inguinal hernia which has become strangulated?
7. What would you do for a man of 75 who was unable to urinate?
8. Give treatment for housemaid's knee.
9. How would you treat a compound fracture of the tibia and fibula?
10. How would you treat a patient crippled by an intractable bunion?

ANATOMY.

1. Briefly describe the internal hearing apparatus.
2. Describe the circulation in the hand.
3. Give the surgical anatomy of the wrist.
4. Give the surgical anatomy of the elbow.
5. Describe the gross anatomy and boundaries of the cavity of the chest.
6. Give the anatomy of oblique inguinal hernia.
7. Give the gross anatomy of the bladder and male urethra.
8. Give the anatomy of the knee joint.
9. Give the surgical anatomy of the leg.
10. Give the surgical anatomy of the great toe.

PRACTICE.

1. What do you understand by the terms: Symptoms, diagnosis, prognosis, period of incubation of diseases?
2. Differentiate between rubella and rubella. Give treatment of rubella and name its complications.
3. What are the symptoms, prognosis and sequelae of cerebral hemorrhage?
4. Describe sonorous sibilant, crepitant and mucous râles.
5. Give the rules for the conduction of an autopsy when poison is suspected.
6. What symptoms may arise from a dislocated kidney?
7. Name the diseases with which gallstone colic may be confounded and give differential diagnosis.
8. Give the varieties of erysipelas, diagnosis and treatment.
9. Name five diseases in which Cheyne-Stokes respiration is commonly found.
10. What are the symptoms, prognosis and treatment of hysteria?

MATERIA MEDICA AND THERAPEUTICS.

1. Define the term narcotic, hypnotic, anesthetic, antispasmodic, with illustrations of each group.
2. Name the principal therapeutic uses of belladonna.
3. What is asafetida, its preparations and therapeutics?
4. Name the principal simple purgatives with their preparations and doses.
5. Give the symptoms and treatment of chloral hydrate poisoning.
6. Name the preparations of veratrum and give their therapeutics.
7. What are the uses of veratrum viride? How would you treat a case of veratrum poisoning?
8. Give doses of tincture aconite, opium, gentian, uva ursi, chlorid of iron, gelsemium, guaiac, ipecac and wine of colchicum.
9. Name three diuretics and give their therapeutic use.
10. Write two prescriptions for use in the summer diarrhea of children.

OBSTETRICS.

1. What are the signs of pregnancy and how are they classified?
2. What are the causes, dangers, symptoms and treatment of abor-

tion. 3. What is the vomiting of pregnancy, and how should it be treated. What should be learned at the first examination in a case of labor? 4. How should a case of breech presentation be managed throughout? 5. To what is rigidity of the os due, and what is the treatment? 6. What is the treatment of placenta previa when occurring before full term, and its management at full term? 7. Give cause and treatment of secondary umbilical hemorrhage in the new-born child. 8. Give the causes, symptoms and management as best understood and practiced at present of albuminuria of pregnancy. 9. State the causes, symptoms and treatment of puerperal phlebitis.

Association News.

List of new members for the month of November, 1903:

ALABAMA.
McLester, Jas. S., Birmingham.
Ferrell, J. H., Woodlawn.
Clark, N. G., Ensley.
Watson, B. W., New Decatur.
Hill, Robt. S., Montgomery.
Hartung, G., Cullman.
Palmer, R. D., Carson.
Rosamond, W. L., Ensley.
Edwards, J. H., Wylam.
Horton, J. J., New Market.
Gordon, S. A., Collingwood.

ARKANSAS.
Ward, O. D., Tucker.
Deaderick, W. H., Marianna.

CALIFORNIA.
Pillsbury, E. S., Los Angeles.
Gunn, Herbert, San Francisco.
Abraham, Henry, San Francisco.

CONNECTICUT.
Seaver, Jay W., New Haven.
Boucher, John B., Hartford.
Loveland, John E., Middletown.

FLORIDA.
Conter, A. E., Lamont.

GEORGIA.
Williams, V. G., Chipley.

ILLINOIS.
Sauer, H. Edward, Chicago.
Derdiger, A. L., Chicago.
Mitchell, T. B., Chicago.
Pratt, Irene R., Chicago.
Davidson, Frank S., Chicago.
Smith, Jos. F., Chicago.
Collins, L. C., Chicago.
Smith, G. R., Bloomington.
Ward, Milan T., Toulon.
Gerzema, Franz, Peoria.
Howling, J. W., Shawneetown.
Shastid, Thos. W., Pittsfield.
Parker, E. S., Vermont.
Brooks, E. W., St. Elmo.
Crane, Wm. W., Sinclair.
Golding, Daniel G., Arrowsmith.
Taft-Grimes, Ellen F., Decatur.
Watkins, Henry T., Olney.
Maloney, L. H., Savanna.
Moore, Samuel, Danville.

INDIANA.
Dorsey, Frank O., Indianapolis.
Zaring, C. T., Greencastle.

IOWA.
Whiteis, Wm. R., Iowa City.
Jenkins, Oliver P., Indianola.
Tobey, Samuel D., Oakland.
Casey, J. M., Ft. Madison.
Busby, Chas. D., Brooklyn.

KENTUCKY.
Harrhill, Eleanor A., Louisville.
Bushong, Geo. W., Tompkinsville.
Palmore, E. E., Strode.
Calvert, Caleb A., Fountain Run.
Bedford, T. H., Meshack.
Sabel, Stanley O., Bowling Green.
Yates, J. A., Edmuntson.
Wagoner, A. L., Scottsville.
Talbot, John G., Burkesville.
Sympton, W. A., Centre Point.
Duncan, R. F., Tompkinsville.
Garnett, R. E., Glasgow.
Taylor, J. M., Glasgow.

MARYLAND.
Talbot, Thos. J., Baltimore.

MASSACHUSETTS.
Foster, H. K., Peabody.
Rose, W. H., Worcester.

MICHIGAN.
McMeekin, R. J., Saginaw.
Gratton, Jos. H., Detroit.
Fritch, G. A., Detroit.

Brown, F. W., Grand Rapids.
Graham, F. J., Sumner.
Eddy, J. H., Wakefield.
LeBlanc, P. J., Benoit, Sault Ste. Marie.
Switzer, G. O., Ludington.
Planck, Edgar A., Union.
Raycraft, Geo. E., Petoskey.
Uloth, Milton J., Ortonville.

MINNESOTA.
Hensel, Eugene A., Alexandria.

MISSISSIPPI.
Sylverstein, Robt. E., Tylertown.

MISSOURI.
Johnson, J. H., Kansas City.
Welsberg, H. A., St. Louis.
Marx, Ella, St. Louis.
Boogher, Frank, St. Louis.
Loeb, Clarence, St. Louis.
Doyle, Wm. J., St. Louis.
Baysinger, S. L., Rolla.

NEBRASKA.
Craft, Wm. T., Gross.
Birkhofer, Wm. J., Gothenburg.
Rosewater, Chas., Omaha.
Emery, Alpheus L., Lanham.

NEW HAMPSHIRE.
Davis, W. S., Sanbornville.
Mitchell, Ezra, Lancaster.
Brown, Elmer F., Groveton.
Lance, Arthur J., Portsmouth.
Hefenger, Arthur C., Portsmouth.
Flanders, Louis W., Dover.
Straw, A. G., Manchester.
Burnham, Hosea B., Manchester.
Evans, Frank W., No. Stratford.

NEW JERSEY.
Maghee, Jas. M., West Orange.

NEW MEXICO.
Mills, Wm. P., Las Vegas.
Wittwer, W. F., Los Lunas.

NEW YORK.
Louria, Leon, Brooklyn.
Townsend, F. M., New York City.
Tierney, Myles J., New York City.
Huber, Francis, New York City.
Cabot, Follen, New York City.
McLaren, John D., New York City.
Bryant, Wm. S., New York City.
Milliken, Seth M., New York City.
Spingarn, Louis, New York City.
Heckel, Fred'k C., New York City.
Kelly, Henry T., White Plains.
Gladman, Everett A., Fulton.
Dalmage, F. W., Hermon.
Driesbach, F. R., Dansville.
Bell, Harold W., Morris Heights.

OHIO.
Ladd, Louis W., Cleveland.
Aldrich, Chas. J., Cleveland.
Fritch, Jos. C. E., Cleveland.
Hatcher, Robt. A., Cleveland.
Case, Guy B., Cleveland.
Prather, Wm. F., Dayton.
Savage, T. J., Xenia.
Byington, H. L., Rising Sun.
Fulton, Margaret C., Portsmouth.
Myers, Elmer G., Canton.
Weger, Geo. S., Delphos.
Radcliffe, Geo. C., Peninsula.
Moody, I. A., Junction City.
Helfrich, Edw. D., Gallon.
Ray, A. G., Byer.
Donaldson, Orland V., Gore.
Heffron, C. H., Metamora.
Heinlein, John A., Bridgeport.
Henry, Wm. H., Hamden Junction.
Roether, H. R., Perryburg.
Hall, Hugh L., No. Amherst.
Jones, L. M., Jamestown.
Whisler, Henry, New Antioch.
Harris, W. P., Bellaire.

OKLAHOMA.
Bowling, Jas. A., Alva.

PENNSYLVANIA.
Salade, Louis A., Philadelphia.
Sincclair, John F., Philadelphia.
Longstreth, Morris, Philadelphia.
Robrecht, John J., Philadelphia.
Walsh, Edw. F., Philadelphia.
Barcus, Adolph L., Philadelphia.
Cassaday, Felix F., Philadelphia.
Huston, David T., Philadelphia.
Baker, Frank K., Philadelphia.
Palst, Henry C., Philadelphia.
Baxter, H. B., Philadelphia.
Blackburn, A. E., Philadelphia.
Van Deryvoort, C. A., Philadelphia.
Miller, Geo. B., Philadelphia.
Ferguson, Wm. N., Philadelphia.
Hawkes, Edwin G., Philadelphia.
Crawford, Jas. Lea, Philadelphia.
Hetrick, D. J., Harrisburg.
Speed, Alex. Morrow, Pittsburg.
Livingood, Wm. W., Reading.
Ritter, A. T., Loysville.
Shepard, Ernest N., Burlington.
Bennett, F. G., Clearfield.
McKenna, Jas. W., Washington.
Reppman, Harry J., Charlerol.
Ballard, Howard S., Hazleton.
Farles, Clarence T., Narberth.
Henninger, C. H., Polk.
Montgomery, Jas. H., Erie.

RHODE ISLAND.
Stewart, Chas. W., Newport.

Barry, Wm. F., Woonsocket.
Bullard, Ernest C., Jamestown.

SOUTH CAROLINA.
Taft, A. R., Charleston.
Stevens, W. G., Rock Hill.

TENNESSEE.
White, Gordon, Nashville.
Greer, Robt. Lee, Norwood.
Dodson, E. F., Harriman.
Long, Edwin A., Johnson City.
McCampbell, H. H., Knoxville.
Copenhaver, M. M., Knoxville.
Menus, Geo. W., Springfield.
Butler, G. D., Pulaski.
Penn, B. S., Fruitland.

TEXAS.
Lawrence, D. H., Galveston.
MacNelly, Chas., Weatherford.
Jones, W. D., Marshall.
Nelson, W. W., Marshall.
Heartsill, Oliver M., Marshall.
Johns, Henry M., Ennis.
McDaniel, Ralph R., Granger.
Buehring, Theodore, Nordhelm.

VIRGINIA.
Davis, Eugene, Richmond.
Gale, S. S., Roanoke.

WISCONSIN.
Decker, Clark O., Cranadan.
Mayer, Lawrence P., Hudson.
Hambley, Thos. J., Harley.
Brooks, E. H., Appleton.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, week ending Dec. 5, 1903:

Shaw, Herbert G., asst.-surgeon, relieved from duty at Fort Miley, Cal., and ordered to Manila, P. I.
Bushnell, Geo. E., surgeon, leave of absence extended for twenty-three days.

Ekwurzel, Geo. M., asst.-surgeon, granted fourteen days' leave of absence.

Marrow, Charles E., asst.-surgeon, granted fifteen days' leave of absence, to take effect on completion for examination for promotion.

Keynolds, F. P., asst.-surgeon, in addition to his present duties at the U. S. General Hospital, Washington Barracks, will report in person to Colonel Charles L. Heizman, asst.-surgeon general, president of the faculty of the Army Medical School at Washington, D. C., for duty as instructor in hospital corps drill and assistant instructor in duties of medical officers and medical department administration.

Ekwurzel, Geo. M., asst.-surgeon, assigned to duty at Fort Banks, Mass., having been relieved from further duty in the Division of the Philippines.

Cox, Walter, asst.-surgeon, relieved from duty at Fort Banks, Mass., and ordered to Fort Reno, O. T.

Farr, Charles W., asst.-surgeon, relieved from duty at Fort Reno, O. T., and ordered to Fort Mason, Cal.

Appel, Aaron H., surgeon, sick leave further extended two months.

Kendall, Wm. P., surgeon, ordered to accompany insane from Presidio of San Francisco to Government Hospital for the Insane, Washington, D. C.

Keller, Wm. L., asst.-surgeon, relieved from further duty in the Division of the Philippines and ordered to Fort Riley, Kan.

Brechemin, Louis, surgeon, leaves Ord Barracks, Cal., en route to take charge of Medical Supply Depot, San Francisco.

Ives, Frank J., surgeon, reports on twenty-one days' leave from San Francisco.

Rockhill, E. P., asst.-surgeon, granted thirty days' leave of absence.

Howard, Dean C., asst.-surgeon, detailed to represent Medical Department of the Army at meeting of the American Roentgen Ray Society, to be held at University of Pennsylvania, Philadelphia, Dec. 9 and 10, 1903.

Burr, Rollin T., contract surgeon, relieved from duty at Cabana Barracks, Havana, Cuba, and is en route to his new station, Fort Rodman, Mass.

Amador, Raoul A., contract surgeon, on one month's leave of absence from Fort Revere, Mass.

Stockard, James K., contract surgeon, granted one month's leave of absence on account of sickness, at the expiration of his ordinary leave.

Navy Changes.

Changes in the medical corps of the U. S. Navy for the week ending Nov. 28, 1903:

Alfred, A. R., surgeon, commissioned surgeon, with rank of Lieutenant, from Jan. 4, 1903.

Noyes, E. R., pharmacist, warranted pharmacist from Oct. 20, 1903.

Grunwell, A. G., surgeon, detached from the Naval Hospital, Washington, D. C., and ordered to the Minneapolis.

Carpenter, D. N., surgeon, ordered to the Naval Hospital, Navy Yard, Washington, D. C.

Noyes, E. R., pharmacist, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marine-Hospital Service.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 5, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 21-28, 6 cases.
 California: Los Angeles, Nov. 14-21, 1 death.
 Illinois: Chicago, Nov. 21-28, 3 cases.
 Louisiana: New Orleans, Nov. 21-28, 2 cases imported.
 Massachusetts: Nov. 21-28, Haverhill, 1 case; Lowell, 1 case.
 Michigan: Detroit, Nov. 21-28, 1 case.
 New Hampshire: Manchester, Nov. 21-28, 2 cases.
 New Jersey: Camden, Nov. 21-28, 1 case.
 Ohio: Nov. 21-28, Cincinnati, 2 cases; Youngstown, 9 cases.
 Pennsylvania: Nov. 21-28, Johnstown, 6 cases, 1 death; Philadelphia, 70 cases, 11 deaths; Pittsburg, 25 cases, 7 deaths, imported 2; Reading, Nov. 23-30, 3 cases.
 Tennessee: Memphis, Nov. 21-28, 8 cases.

SMALLPOX—FOREIGN.

Ecuador: Guayaquil, Nov. 7-14, 1 death.
 Great Britain: Nov. 7-14, London, 16 cases; Newcastle-on-Tyne, 18 cases; Nottingham, 4 cases.
 Italy: Catania, Nov. 6-12, 1 death; Palermo, Nov. 7-14, 1 case.
 Russia: Moscow, Oct. 31-Nov. 7, 1 case.
 Turkey: Smyrna, Nov. 1-8, 16 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 26, 4 cases; Nov. 23-Dec. 1, Laredo, 6 cases, 5 deaths; San Antonio, 5 cases, 5 deaths; Minera, Nov. 28, 2 cases, 1 death.

YELLOW FEVER—FOREIGN.

Mexico: Nov. 8-14, Ciudad Victoria, 9 cases, 7 deaths; Linares, 74 cases, 6 deaths; Merida, 3 cases; Nuevo Laredo, 2 deaths; Mencilova, Nov. 17-18, 2 cases, 2 deaths; Reata, Nov. 26, 1 case; Vera Cruz, Nov. 15-28, 14 cases, 9 deaths.

CHOLERA—FOREIGN.

Turkey: Syria, Nov. 7, prevailing.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 12, 1 case, 1 death.

PLAGUE—FOREIGN.

Egypt: Oct. 24-31, Alexandria, 3 cases, 2 deaths; Summalut District, 2 cases.
 India: Bombay, Oct. 26-Nov. 3, 45 deaths; Karachi, Oct. 18-Nov. 1, 28 cases, 25 deaths.
 Japan: Yokohama, Oct. 24-31, 1 case, 1 death.
 Mauritius: Oct. 19-26, 117 cases, 55 deaths.

Medical Organization.**Indiana.**

ELEVENTH COUNCILOR DISTRICT FULLY ORGANIZED.—All the counties constituting the Eleventh Indiana Councilor District have been reorganized, each society has adopted the new constitution and by-laws, and some of them report a large increase in membership. The councilor of the district, Dr. Robert Hessler of Logansport is urging the adoption of a regular program for the meetings, made out for a year in advance, if possible. Such a program stimulates the writer of a paper, and, on the other hand, good papers bring out a good attendance.

Iowa.

HARDIN COUNTY MEDICAL SOCIETY.—This society was organized a few days ago with the following officers: Dr. William P. Burke, Iowa Falls, president; Dr. Walter H. Lewis, Alden, vice-president, and Dr. William E. Whitney, Eldora, secretary.

Minnesota.

CHISAGO-PINE COUNTY MEDICAL SOCIETY.—Dr. W. S. Fullerton, St. Paul, state organizer of the Minnesota State Medical Society, reports the organization of this society on the standard plan, November 17, with the following officers: President, Dr. Horace G. Murdock, Taylor's Falls, Chisago County; vice-president, Dr. A. J. Stowe, Rush City, Chisago County; secretary, Dr. Olof S. Werner, Lindstrom, Chisago County; treasurer, Dr. Christopher A. Anderson, Rush City, Chisago County; delegate, Dr. Carl O. Hertzman, Lindstrom, Chisago County, and censors, Drs. Duke W. Cowan, Sandstone, Pine County; C. E. Lundgren, North Branch, Chisago County, and Edwin A. Riley, Willow River, Pine County.

Nebraska.

RICHARDSON COUNTY MEDICAL SOCIETY.—At the meeting of this society, November 25, in Falls City, Dr. John W. Bullard, Pawnee City, councilor for the third district, addressed the meeting, explaining the advantages of the standard plan of organization and urging its adoption. He was given close attention, and the society will take action on the matter at its next meeting, December 30.

Pennsylvania.

NORTHUMBERLAND COUNTY MEDICAL ASSOCIATION.—On November 27, physicians of the county met at Sunbury and organized a Society with the following officers: President, Dr. William B. Stoner, Sunbury; vice-presidents, Drs. Frederick D. Raker, Shamokin, and Ellis A. Smith, Snyderstown; secretary, treasurer and reporter, Dr. Horatio W. Gass, Sunbury, and censors, Drs. John H. Vastine, Shamokin, Sidney Davis, Milton, and J. Kerchner, Georgetown.

South Dakota.

SOUTH DAKOTA (FIFTH DISTRICT) MEDICAL SOCIETY.—In accordance with the standard plan of organization, this society was organized at Madison, November 24, Dr. Arthur J. Doty, Colman, councilor for the Fifth District, was elected president; Dr. Frederick H. Files, Madison, vice-president, and Dr. John M. Duff, Madison, secretary and treasurer. The territory of the society has Madison as a center and extends east to Egan, west to Artesian, and north to Oldham.

Texas.

FALLS COUNTY MEDICAL SOCIETY.—Physicians of Falls County met at Marlin, November 25, and organized a society with an initial membership of 18, and elected the following officers: Dr. James P. Barton, Mooreville, president; Dr. Walter H. Allen, Marlin, vice-president, and Dr. Burr G. Ward, Marlin, secretary.

Society Proceedings.**COMING MEETINGS.**

Southern Surgical and Gynecological Association, Atlanta, Ga., Dec. 15-17.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Obstetrics and Gynecology, held Nov. 27, 1903.

L. J. Ladinski, M.D., Chairman.

Toxemia of Pregnancy.

DR. WILLIAM S. STONE, in this paper, said that there was frequently present an increased irritability of the medullary centers, dependent on the presence of toxins in the blood. In reporting his own cases, the speaker said that in one of the cases the vomitus contained bile, blood and epithelial cells from the stomach—in short, corresponded to "black vomit." In another case, in which the urine contained many casts and much albumin, the patient's condition was aggravated by emptying the uterus, and death in coma occurred in forty-eight hours. A complete autopsy was made in this instance, apparently only the second one on record, and it pointed very strongly, as did the clinical course; to acute yellow atrophy of the liver. It was pointed out that eclampsia occurred in one-tenth of the cases without albuminuria, and that the renal lesions varied from those of ordinary nephritis to degenerations like those found in the liver. The latter organ might show chronic congestion or the changes observed in acute yellow atrophy. In all cases the renal lesions appeared to be less severe, and secondary to those of the liver. The kidney was often normal, but a diseased kidney and a normal liver were never observed in these cases. Although slight albuminuria was probably always present, it was chiefly significant when noted in the early months of pregnancy. The presence of blood, casts, leucin, tyrosin and bile in the urine was of great importance. In the treatment, the chief reliance should be on the use of saline solution per rectum, or, in some cases, on hypodermoclysis or saline infusion. The induction of premature labor often served to precipitate the fatal issue, but this measure should be undertaken, if possible, before the onset of black vomit.

DISCUSSION.

DR. CHARLES JEWETT said that a patient was never safe while albuminuria existed. The quantity of urea excreted was, in his opinion, a greatly overrated danger signal, for it not only varied widely within the limits of safety, but fluctuated with the quantity of nitrogenous food ingested, and was normally less in the later months of pregnancy. He

had frequently seen women pass safely through labor, though they were excreting a very small quantity of urea.

Dr. S. MARX thought antecedent gastric disorders played an important part in connection with hyperemesis gravidarum. He kept such patients quietly in bed on a fluid diet and gave them tablespoonful doses of bismuth. Experience had taught him to think less and less of albuminuria and more and more of the quantity of urea excreted as an index of danger, although he did not mean to imply by this statement that the urea itself was necessarily the element of danger in the toxemia of pregnancy. He had never seen a case of eclampsia in which the urea was not diminished, although it was true he had seen patients escape eclampsia who were excreting very little urea.

Dr. E. B. CRAGIN favored the theory of the hepatic origin, but many pelvic disorders cause nausea and vomiting in the non-pregnant; moreover, if all the early cases of vomiting were the result of toxemia he could not understand why this vomiting should so commonly cease spontaneously later when the products of the fetus tended to increase the toxemia. Four recent cases of toxemia of pregnancy dying in hospital were reported by the pathologist to be suffering from acute yellow atrophy of the liver. The general line of treatment advised in the paper met with his hearty approval, but he would emphasize the need of promptly emptying the uterus, for, although this procedure did seem to hasten the fatal termination in some cases, it was not infrequently followed by immediate improvement in seemingly very severe cases. Albuminuria should always be looked on as a danger signal.

Dr. S. W. BANDLER expressed the opinion that the toxins were given off by the placenta. If such marked results can follow changes in the thyroid or other well-known internal secretions, it is reasonable that they may follow increase or diminution of the placenta secretion.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Some of the New Remedies in the Oculist's Practice.

L. Konigstein, in *Annals of Ophthal.*, states that formerly ophthalmic medication consisted mainly in the use of atropin, silver nitrate and mercury. Atropin was most frequently used and was a very much-abused drug. Silver nitrate was also used indiscriminately in all inflammatory conditions of the conjunctiva and likewise increased the sufferings of the patient. Iodin was employed frequently as a substitute for mercury. Among the newer remedies he mentions the following indications for their employment: 1, as anesthetics; 2, as analgesics; 3, as mydriatics for ophthalmoscopic examinations; 4, as cosmetics; 5, as an irritant in paresis of the sympathetic; 6, as an anemic agent. He employs cocaine, at present, as a substitute for general narcosis, even using it in enucleation of the eye bulb combined with adrenalin. To produce an analgesic effect deep in the eye bulb, he uses aconin and dionin. In glaucoma he combines eserine with cocaine as an analgesic agent.

Adrenalin is another important adjunct to the remedies for its marked anemic effects on the mucous membrane, and consequently of great value in conjunctivitis simplex, phlyctenularis, pterygium, keratitis vascularis superficialis, iritis, scleritis, etc. This preparation is a constrictor and not an astringent, the cells being unaffected by it, consequently it may be used in combination with zinc as an astringent. It may also be combined with calomel and yellow ointment. In probing the tear

duct very good results are obtained by combining adrenalin with the cocaine. As a cosmetic it is said to enlarge the palpebral fissure more than cocaine. Dionin is another preparation used by the author in the treatment of keratitis parenchymatosa in recent cases only. It is of no value in long-standing cases, and is contra-indicated in diseases of the conjunctiva. It shortens the course and stops the pain in iritis. Many authors recommend it in choroiditis, retinal hemorrhages, and vitreous opacities. In cataract operations it facilitates the absorption of the lens residue. The effect of dionin is due to the fact that it produces changes in the epithelium of the capillary vessels and causes an increase in the secretion of the blood-plasma into the connective tissue which increases the nutrition of the cells. The circulation of the lymph in the anterior part of the eye is accelerated, which benefits the posterior part of the eye bulb. Stasis in the lymph channels produces pressure on the nerve ends and in this way the analgesic effects of the drug are produced, which last for a considerable length of time.

Protargol and largin are the newer remedies substituted for silver nitrate. They are preferable to silver nitrate for the following reasons, as observed by some authors:

1. They are excellent disinfectants.
2. They do not possess such irritant and caustic qualities.
3. They do not decompose so easily.
4. They are less harmful.
5. They do not produce argyrosis.

The author's views do not entirely coincide with those given above, claiming, as he does, that they do produce argyrosis and decompose easily. He does not believe that they can replace silver nitrate, but thinks they are very valuable adjuvants to it.

Coblentz states that silver nitrate possesses only limited penetrating power, as it is precipitated by albumin and sodium chlorid and thus does not reach the deeper tissues. The more recent preparations are unaffected by the albumin or sodium chlorid, and hence their penetrating and germicidal power is increased.

He mentions several of the recent preparations, together with their composition. Largin, according to this author, is a paraneucleo-proteid with silver, containing 11.1 per cent. of silver. It is soluble in nine parts of water, is non-irritating and has high penetrating power. Protargol contains about 8 per cent. of silver and is soluble in equal parts of water. It penetrates deeply and is not precipitated by the tissues. Argyrol, which is placed in the front rank by some authors in the treatment of eye affections, contains 30 per cent. of the metal. It is readily soluble in hot water.

In the author's opinion these preparations are all less irritating than nitrate of silver and are better borne by the patient. The percentage of silver is of less importance than the special combination in which the silver exists.

Tissol, in *Med. Press and Cir.*, states that of all the mydriatics atropin is the best. Its indications are: phlyctenular keratitis or impetigo of the cornea, herpes of the cornea, and interstitial keratitis. The atropin relieves the pain and by dilating the pupil prevents the formation of synechia. Mydriatics are especially of benefit in affections of the iris. Sometimes the eye is too sensitive to the ordinary solution, which is:

R. Atropinæ	gr. i	106
Aq. destil.	3iiss	10

In such cases the following solution in warm compresses on the eye serves the purpose:.

R. Atropinæ	gr. vi	40
Aquæ	3i	30

M. Sig.: One teaspoonful in a bowl of water and applied to the eye on compresses.

Or the following combination may be used in its stead:

R. Ext. belladonnæ		
Ext. hyoseyami, aa	3ss	2
Aquæ	5x	300

M. Sig.: Apply locally on compresses.

As mydriatics raise ocular tension they are absolutely contra-indicated in glaucoma. Myotics are proper in such conditions, producing myosis, lowering tension and decreasing the

conjunctival secretion. Pilocarpin and eserine are included in this class. Pilocarpin is a less painful and more untrustworthy remedy.

The following formula is recommended by Darier:

R. Pilocarpinae hydrochlor. gr. i	06
Eserina sulph. gr. ss	03
Ext. suprarenalis aqueous	
Aque destil, aa .....℥iiss	45

M. Sig.: As a myotic in glaucoma.

Methylene Blue in Diarrhea.

Combemale, according to an abstract in *Med. Press and Cir.*, strongly recommends the administration of three grains daily of methylene blue in the treatment of diarrhea from any cause. He has employed this agent with success in the diarrhea of tuberculosis, Addison's disease, and typhoid fever, and in the diarrheas of other acute infections. He gave it in doses of one grain three times a day, or it may be given oftener in smaller doses.

Diarrhea in Typhoid Fever.

L. F. McDowell, in *Dublin Jour. of Med. Science*, recommends the following combinations in the treatment of diarrhea in typhoid fever:

R. Tinct. opii camph. ....℥ss	2
Acidi sulph. arom. gtt. xv	1
Spts. chloroformi gtt. x	65
Aquae .....℥ss	15

M. Sig.: To be taken at one dose and repeated as indicated; or:

R. Bismuthi carb. gr. x	65
Sodii bicarb. gr. v	30
Cretæ prep. arom. gr. xx	1 30
Tinct. opii gtt. v	30
Spts. chloroformi gtt. x	65
Sodii salicylatis	
Pulv. tragacanthæ, aa gr. x	65
Aquæ q s. ad. ....℥i	30

M. Sig.: At one dose.

Epilepsy.

W. Alessi, according to an abstract in *Amer. Med.*, recommends the following combination as of great value in the treatment of epilepsy:

R. Sodii arsenatis gr. 1/64	001
Zinci phosphidi gr. 1/14	005
Calcii phos. gr. i	06
Sodii benzoatis	
Pancreatin, aa gr. iii	20

M. Sig.: At one dose three times a day before each meal.

According to the author, the arsenic and zinc preparations are nerve tonics, the latter being also a nerve sedative, the former aiding the exhalation of nitrogen. The calcium phosphate reduces cerebral excitability. The pancreatin and sodium benzoate aid digestion and overcome intestinal fermentation.

Chronic Pharyngitis.

The following combinations are recommended by *Jour. des Pract.* in the treatment of pharyngitis:

R. Sodii boratis .....℥ii	8
Tinct. myrrhæ .....℥i	4
Infusi cocæ fol. ....℥viii	240

M. Sig.: Use as a gargle every two hours; or:

R. Potass. chloratis .....℥iiss	10
Infusi rubi fol. ....℥iv	120
Infusi cochleariæ .....℥ss	15

M. Sig.: To be used as a gargle.

To Kill Bedbugs.

In response to an inquiry by a subscriber in our last issue as to the best method of killing bedbugs, Dr. W. A. Kriesel of Milbank, S. D., recommends the use of formalin as being more efficient than the bichlorid solution. The room should be at a temperature of 70 F. or warmer in order to promote more rapid evaporation of the solution, thereby affecting the bugs that may have escaped the fluid. The fluid should be introduced into all the cracks and crevices by means of an ordinary oil can. The application should be repeated after five or six days in order to kill any young bugs hatched from

eggs not devitalized by the first treatment. The hands must be protected by gloves in order to avoid any escharotic effects. Dr. Kriesel has used this for three years and has never seen it fail.

Dr. J. W. Croskey, Philadelphia, recommends, as a practical and sure remedy for bedbugs, a solution composed of equal parts of spirits of turpentine and aqua ammonia applied in the same manner as the foregoing formalin solution.

Burns.

The following is recommended by *Nord Medical* in the treatment of burns:

R. Tinct. opii .....℥iiss	6
Aq. laurocerasi .....℥x	40
Glycerini .....℥iiss	75

M. Sig.: Apply constantly to the inflamed areas by means of compresses.

Lumbago.

The following combination, in *Med. Rev. of Reviews*, is recommended in the treatment of lumbago:

R. Tinct. iodi .....℥ii	8
Tinct. aconiti rad. ....℥iii	12
Spts. chloroformi .....℥ss	15
Linimenti saponis co. q. s. ad. ....℥iii	90

M. Ft. linimentum. Sig.: Apply locally several times daily.

Diphtheria.

E. Perrier, in *Annals de Med. et Chir.*, states, in the treatment of diphtheria, that the presence of suspicious spots on the tonsils or uvula demands the injecting of antitoxin at once. Irrigation of the upper-air passages should be practiced three or four times a day with a warm boric acid solution. Locally the following combination should be applied every two hours during the day and less frequently at night:

R. Acidi salicylici gr. x-xv	65-1
Alcoholis .....℥v	20
Glycerini .....℥i	30
Infusi eucalyptus .....℥ii	60

M. Sig.: Apply locally to the throat every two hours.

The patient should be nourished with milk, albumin water, chocolates and ices, as well as raw or cooked fruits. If alcoholic stimulation is required, champagne, sherry or port wine may be selected.

The following tonic is recommended:

R. Ext. cinchonæ .....℥i	4
Cognac .....℥i	30
Elix. simplicis .....℥iv	120

M. Sig.: A teaspoonful to a dessertspoonful every two hours.

In case the nasal fossa is involved the following ointment may be applied:

R. Acidi boracici .....℥i	4
Liq. petrolati .....℥i	30

M. Sig.: Apply locally.

In cases in which the diphtheritic membrane appears on the conjunctivæ the general treatment is the same, while the conjunctivæ are treated locally by the application of boric acid.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Nevada—Requirements for Practice of Optometry.—Chapter 48 of the Laws of Nevada of 1903 provides that any person engaging in the optical profession in correcting ocular, muscular imbalances, errors of refraction, or other defects of vision, not requiring surgical treatment, shall apply to the state controller for a license and shall produce a certificate of graduation, and shall make affidavit that he is the person named therein, and that such certificate has been issued by a regularly chartered college, authorized to confer degrees, etc. The fee for a license is \$10. Nothing in this act shall be construed as applying to regularly qualified medical practitioners, nor to persons who have been engaged in the optical profession in the state for one year preceding the passage of this act.

North Carolina—To Keep Mumps and Itch Out of Schools.—Chapter 690 of the Public Laws of North Carolina of 1903 amends Section 13 of Chapter 214 of the acts of 1893, providing that school committees, etc., shall not allow pupils to attend schools while members of their respective households are sick with certain diseases, or during two weeks after the death, recovery or removal of such sick person, Chapter 690 adding to the list of diseases mumps and itch.

North Dakota—Regulation of Practice of Optometry.—Chapter 130 of the Laws of North Dakota of 1903 is for the most part like the California act epitomized on page 1043 of THE JOURNAL, Oct. 24, 1903. But it contains as further causes for the revocation of a certificate the advertising himself as an optician, or as a specialist or doctor, or holding himself out to the public as being other than an optician, skilled in the art of optometry.

Oklahoma—Provision for Free Distribution of Vaccine.—Article 3 of Chapter 2 of the Session Laws of Oklahoma of 1903 appropriates \$2,500 per annum, or as much thereof as may be necessary, for the manufacture of and free distribution within the territory of vaccine by the Oklahoma Agricultural Experiment Station at Stillwater.

Oregon—Reports Required.—On pages 82-86 of the General Laws of Oregon of 1903 is an act to establish a state board of health, etc., which provides, among other things, that it shall be the duty of every physician, midwife or head of a family, under whose charge any birth occurs, to report the same to the county or city health officer (as the case may be) before the last day of the month in which said birth occurs. Similar provisions require deaths to be reported within forty-eight hours, or as soon thereafter as practicable; and any infectious or epidemic disease to be reported immediately. The penalty for violation is a fine of from \$10 to \$100.

Pennsylvania—For Sanatorium for Poor Consumptives.—No. 30 of the Laws of Pennsylvania of 1903 appropriates \$8,000 for the erection, fitting and maintenance for two years of a sanatorium for poor consumptives, on the state forestry reservation at Mont Alto, in Franklin or Adams counties, and authorizes the commissioner of forestry to make and enforce rules and regulations governing the same.

Pennsylvania—Limits Sale and Prescribing of Cocain.—No. 92 of the Laws of Pennsylvania of 1903 provides that no person shall sell, furnish or give away any cocain, or any patent or proprietary remedy containing cocain, except on the prescription of a registered practicing physician, or of a dentist, or of a veterinarian; nor shall any such prescription be refilled; nor shall any physician, etc., prescribe cocain, etc., for any person known to him to be a habitual user of cocain. The penalty is a fine of \$100 or less, and imprisonment for six months, or less, both or either, at the discretion of the court.

Pennsylvania—School Buildings To Be Disinfected.—No. 132 of the Laws of Pennsylvania of 1903 states that, whereas, infectious and contagious diseases are very largely disseminated through the schools, from the want of proper disinfection of school buildings; therefore, it shall be the duty of the board of school directors, trustees, or other persons having control of any school or college building, to adopt and immediately put into operation a modern system, for the disinfection of such buildings; and to cause, at regular intervals of not exceeding two weeks, all of such buildings to be thoroughly disinfected. The system adopted shall be approved by the city board of health, or, there being no such local board, by the state board of health.

Pennsylvania—Provision for Commitment of Drug Users.—No. 153 of the Laws of Pennsylvania of 1903 is an act to authorize and provide for the commitment of persons habitually addicted to the use of an intoxicating liquor or drug to a proper hospital or asylum, for restraint, care and treatment. The petition shall be accompanied by the affidavits of at least two physicians, based on examination by them of the alleged drunkard, setting forth his condition and stating that restraint, treatment, etc. in a hospital will be of benefit, which physicians must also appear at the hearing given the case. But the restraint shall not be continued in any case longer

than one year, and all commitments shall be reviewable by proceedings under writ of habeas corpus, which may be sued out at any time. Furthermore, no person shall be committed, or be admitted into any hospital, etc., until payment has been made, or satisfactory security given, for the proper charges for board, treatment, etc.

South Carolina—Ban on Toy Pistols and Caps.—Chapter 79 of the Laws of South Carolina of 1903 provides that it shall be unlawful for any person, firm or corporation in the state to sell, keep for sale or offer for sale, or give away, any toy pistol, in which caps or cartridges are used, or any caps or cartridges therefor. The penalty for violation is a fine not exceeding \$100, or imprisonment (in the case of an individual) for not over 30 days.

South Dakota—To Prevent Abuses in Vaccination.—Chapter 223 of the Laws of South Dakota of 1903 makes it unlawful for any board, physician or person to compel another by physical force to submit to vaccination with smallpox or other virus. No person shall prevent a child of school age, who furnishes a physician's certificate of successful vaccination within five years, from attending public school. The penalty for violation is imprisonment for not more than thirty days or a fine of not more than \$100 or both.

Texas—Restriction on Prescribing Cocain, Etc.—Chapter 115 of the General Laws of Texas of 1903, regulating the sale of morphin, opium, cocain, chloral or any of the derivatives thereof, provides that any physician or person who shall give any prescription therefor to any person known to be a habitual user of the same, except in cases of actual sickness, shall be fined from \$25 to \$250, and may in addition be imprisoned in the county jail not exceeding six months.

Texas—Creates a Pasteur Hospital.—Chapter 125 of the General Laws of Texas of 1903 appropriates \$5,000, or so much thereof as may be necessary, for the erection and maintenance of a Pasteur department for the treatment of hydrophobia in the state, in connection with and under the management of the state lunatic asylum at Austin. Any person affected with hydrophobia within the state shall be admitted for treatment on the certificate of a practicing physician and the recommendation of the county judge of any county. All indigent patients shall be treated and maintained at expense of the state, but all non-indigent patients at their own expense, or that of their relatives, friends or guardians. The laws pertaining to the introduction and control of such patients shall be the same as those of the Austin asylum.

Utah—Children Forbidden to Have Tobacco, Etc.—Chapter 135 of the Laws of Utah of 1903 provides that any person under the age of 18 years who shall buy, accept or have in his possession any cigar, cigarette or tobacco in any form, or any opium or any other narcotic in any form, shall be guilty of a misdemeanor.

Utah—Restriction on Location of Pest-Houses.—Chapter 36 of the Laws of Utah of 1903 provides that no pest-house, hospital, etc., used to confine persons having or suspected of having any contagious or infectious disease, shall be located or maintained within twenty rods of any public road, or within one-fourth mile of any uncovered canal, ditch, flume, etc., conveying running water only, if said water is conveyed into, or used by the inhabitants of any city, town or village, for culinary, household or other domestic purposes.

Utah—Disinfection Required in Typhoid Fever Cases.—Chapter 81 of the Laws of Utah of 1903 makes it the duty of any person having charge of a person with typhoid fever to disinfect all excreta from the person during the disease, in accordance with the rules of the state board of health; failure so to do shall be a misdemeanor. It shall be the duty of the physician in attendance to personally instruct those having charge to perform the disinfection described and to satisfy himself that the same is properly carried out; failure so to do shall be a misdemeanor.

Wyoming—On Sale and Prescribing of Delirifacients.—Chapter 98 of the Session Laws of Wyoming of 1903 makes it unlawful for any person, corporation, etc., to sell, give away, or

possess, or in any manner distribute, any cocain, opium chloral hydrate, or their derivatives, or any drug or combination, the natural effect of which is to induce delirium, or any patent or proprietary medicines, known to contain any drug, or derivatives thereof, heretofore mentioned; except that regular licensed pharmacists may keep for sale and sell such drugs, on the bona fide written prescription of a regular practicing physician, which prescription must not be repeated or refilled. Any physician who shall prescribe any of the drugs herein mentioned, except in cases where the use is required by the then existing physical or mental condition of the patient, shall, on conviction thereof, be deemed guilty of malpractice and unprofessional conduct, and it shall thereon be the duty of the State Board of Medical Examiners to revoke his license to practice.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal. November 23.

1. *The Use of Weak Cocain Solutions in Operations for the Removal of Cervical Tumors. Frederick Griffith.
2. *The Early Operative Treatment of Tuberculous Osteitis of the Knee. (Concluded.) Bernard Bartow.
3. *The Treatment and Management of Postoperative Tuberculous Patients and a Plea for the Establishment of Seaside Sanatoria and Convalescent Homes. S. A. Knopf.
4. *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (Continued.) Hermann G. Klotz.
5. *Ocular Headache and Other Ocular Reflexes; a Statistical Study. (Concluded.) M. W. Zimmermann.

1. Cocain Anesthesia.—Griffith reports a number of cases of cervical tumors removed under weak solutions of cocain, $\frac{1}{4}$ to $\frac{1}{8}$ per cent. in a warm, weak, soda solution. In one of the cases ether supplemented the cocain on account of the nervousness of the patient. In the others there seemed to be little or no pain during the dissection.

2. Tuberculous Osteitis of the Knee.—Bartow's article is concluded in this issue, and the paper consists mainly of accounts of cases. The range of preservation of movement in the recovered cases was from complete functional restoration to limitation of the movement within 15 degrees of flexion. Between these extremes are 4 cases in which there was free flexion of from 60 to 90 degrees from the straight position of the leg. In a patient with less motion range it is susceptible of further improvement by movement during anesthesia.

3. Post-Operative Tuberculous Patients.—Knopf's article is a very long one, covering the whole subject of the hygiene of tuberculous patients after operation. He describes the methods for the open-air treatment and exercises, and insists on deep breathing movements as soon as possible after the patient is removed from the table, to restore the respiratory function and facilitate hemostasis and expectoration and relieve the cough. It also prevents hypostasis of the lungs often produced by the prolonged recumbent position. There should be individualized hydrotherapy. Rest in the open air is considered of special importance. The dietetic treatment must vary with the cases. He believes in a mixed, nourishing diet with thorough mastication and avoidance of all alcoholics and too much sweets; plenty of salt with the food, and between meals plenty of water. The administration of raw beef or beef juice will be of benefit in all types of tuberculosis. A great factor in the success is the keeping up of perfect nutrition; massage is valuable in suitable cases. It would be impossible, however, he says, to lay down a rule when it is or is not indicated after surgical operations. He goes at length into the precautions that should be taken to avoid infection, the care of the sputa, etc. In conclusion he makes a plea for convalescent homes for the poor who have undergone surgery.

4. Gonorrhea.—Klotz' article is continued. He describes the method of treatment in the various forms and stages.

5. Ocular Headache.—Zimmermann's article is here concluded. He gives a tabulated statement of the results of re-examinations after six months or more, the average being 2.88 years. These offer some interesting data. He also tabulates cases where there was a lack of binocular vision in the first place, either due to a loss of an eye or divergent strabismus, and in which ordinary muscle action would seem to be eliminated. This group shows a much smaller percentage of headaches than that of the larger groups with binocular vision. The influence of ill health as a predisposing cause of ocular headache is also studied, and it is found to occur in 19.16 per cent. Neurasthenia, general nervousness or general ill health seemed to be prominent causes, though grippe also played a considerable figure. Migraine, understanding by this term a form of periodic headache preceded by aura, occurred in 33 cases, excluding 35 cases of hemicrania without nausea and vomiting, 25 of bilateral headache in which these symptoms appeared. Eight patients reported complete cures of migraine attacks for a reasonable period, and in 3 cases a certain degree of relief was obtained by the proper adjustment of glasses. He remarks that oculists have perhaps been too indifferent to the headache habit with which neurologists are well acquainted. During the early wearing of new glasses, while the eye and its ciliary muscle are adapting themselves to new conditions, great benefit results from the use of very dilute applications of a meiotic, eserine salicylate, 1/20 to 1/50 of a grain to the ounce. He thinks this, perhaps, acts as a tonic to the ciliary muscle and has a tendency to steady its erratic action under new conditions. With these weak solutions there is very little effect on the pupil. They are not irritating to the iris or other uveal structures, and are for temporary use only. With periodic headaches, some of the coal tar group, the preparation given at the onset of the attack may be of great benefit. The tabulated statement of other reflexes than headache, including epileptiform attacks, vertigo, shoulder pain, abnormal head position and blepharospasm, is also given. In one of the cases of epileptiform attacks ocular treatment seemed to produce a cure. The total results of treatment are rather hopeful. In 233 hospital cases and 451 private ones a complete cure is reported, also 29 and 61 per cent., respectively, of improvement. Only 20 cases were not improved. He thinks that the 86 per cent. of cures is a good result, not meaning by this absolute cures, though that is commonly the outcome, but such a modification of symptoms that the patient does not suffer any annoyance which can not be controlled by hygiene.

American Medicine, Philadelphia.

November 23.

6. *What Is the Limit of Safety When More Than One Operation is Indicated? Albert Vander Veer.
7. *The Roentgen Rays as a Palliative in the Treatment of Cancer. Charles Lester Leonard.
8. *The Demonstration of Nucleated Red Blood Corpuscles in Animal Spleens. Edward T. Williams.
9. *The Spectroscopic Elements of Light as Therapeutic Agents. George G. Hopkins.
10. *Abdominal and Pelvic Surgery Without Ligatures. Electrothermic (Heat and Pressure) Hemostasis. Andrew J. Downes.
11. The Effects of the Secondary Static Currents in Removing Albumin and Casts from the Urine, with Report of Cases. Boardman Reed.
12. Status of Sanitary Progress. Walter Wyman.

6. Multiple Operations.—The dangers of multiple simultaneous operations are pointed out by Vander Veer who, while he admits the possibility of recovery in such cases, thinks the dangers are increased. The danger to certain nervous tissues in doing what we call a combined operation must not be lost sight of, and any operations that approach the stomach, that involve the small nerve centers, are especially to be respected. Operations on the genitals of males are not well borne, and he thinks the same should be true in the female, though gynecologists are quite free in making multiple operations in these cases. In the operation of nephrectomy he does not like to do more than one operation on one patient at one time, and the same holds good in operating on the lung or opening the pleural cavity. One operation on the brain is quite enough. He concludes by

saying that he believes extreme multiple operations, deliberately planned, should not be encouraged, although the surgical technic of to-day allows us to do more than was even dreamed of in the near past.

7. Cancer.—Leonard believes that the x-ray should be used in cancer, though we can not give up surgical measures with our present knowledge. The rays should be used in combination. The palliative effects of the rays also are important. He insists on the necessity of correct technic, a careful study of the patient's condition, use of stimulants, a tonic course of treatment if necessary to combat the tendency to degeneration of the cells and possibly auto-intoxication. He says he has seen inoperable cases of cancer cured and remain cured thus far, and hopelessly inoperable cases restored to such health as to be able to resume their ordinary vocations, while the fatal termination in hopeless cases has been deferred and the suffering mitigated. The results thus far are very encouraging. A prophylactic postoperative course of treatment has been developed that will doubtless increase the number of cures, while as a palliative agent there is nothing else equal to it.

8. Red Blood Corpuscles in the Spleen.—Williams has experimented on the spleens of hogs and oxen and finds that the erythroblasts are a constant anatomic element in these structures. He has not yet been able to examine a fresh human spleen, opportunity for which is not too common, but thinks we need further evidence before we can say that this organ in man has lapsed into a rudimentary state and is incapable of making red blood corpuscles. When an authority like Neumann positively states that he has seen erythroblasts many times in the spleen of human adults and distinctly expresses his dissent from Külliker, we are evidently nearing the verdict.

9. The Spectroscopic Elements of Light.—Hopkins notices the history of the light treatment and describes the effects that he has himself obtained with the Finsen light, the Minim light, the Hopkins lamp and the German light bath.

10. Electrothermic Hemostasis.—Downes' article is a description of his methods and armamentarium, and a new record of cases up to the present time.

Medical Record, New York.

November 28.

- 13 *Electricity in General Practice. W. B. Neffel.
- 14 *Suprapubic Lithotomy. J. J. Brownson.
- 15 *Treatment of Cervical Adenitis Due to Tonsillar Infection. Albert E. Rogers.
- 16 Perineal Section for Stricture, with Suggestions on the Use of the Cautery, and Points in the After-treatment. Charles C. Miller.
- 17 Foreign Bodies in the Rectum, with Report of Two Cases. Maurice Rosenberg.

13. Electricity in General Practice.—Neffel reviews the utilization of electricity according to the older methods of galvanism and faradism as they can be employed by the physician in general practice. He notices the use of faradic currents as being a local and general stimulant and tonic, and affecting general nutrition, while galvanism acts more directly on the nerves and nervous centers, modifying their excitability. The contraindications to both are fevers and acute inflammatory disease. The different methods of application are described, faradization of phrenic nerves in cases of suspended animation and of the nerve trunks in the treatment of writers' and piano players' cramp, in visceral displacement and dilatation, in hernia, general anemias, etc. He also gives instances of the use of galvano-faradic currents in atrophic conditions and of faradic currents in heart disease. Galvanization of the brain and the sympathetic nervous system and pneumogastric are illustrated by examples and the use of the galvanic current in neuralgia. In neuritis the faradic current is indicated. The methods are described much as in the usual text-books on electro-therapeutics.

14. Suprapubic Lithotomy.—Brownson advocates the use of the suprapubic method in lithotomy, claiming that the danger of hemorrhage is not so great; there is no fear of wounding the rectum; the peculiar and delicate nerve supply of the perineum is not disturbed, moreover, and the operator has

better control of the bladder by the suprapubic method. After operation he would use drainage except, perhaps, in young and vigorous persons with healthy bladders, where the catheter can be employed.

15. Cervical Adenitis.—In case of cervical adenitis from tonsillar infection Rogers advocates removal of the tonsils, and advises that in all cases in which the glands have not already broken down, the surgeon should first extirpate the tonsil before resorting to incision through the skin, thus removing a primary source of infection and avoiding an unsightly scar. Five cases are reported.

Boston Medical and Surgical Journal.

November 26.

- 18 *The Treatment of Diffuse Peritonitis. B. F. Lund.
- 19 *A Clinical Study of 112 Cases of Movable Kidney. Ralph C. Larrabee.
- 20 *Diseases of House Officers in Hospitals. William R. P. Emerson.
- 21 *Unclean Milk, Bovine Tuberculosis and the Tuberculin Test—Their Relation to the Public Health. (Concluded.) E. R. Larned.

18. Peritonitis.—The starvation method of treating peritonitis described by Ochsner and others is not favored by Lund, who insists on the importance of early operation, with thorough irrigation with decinormal salt solution at a temperature of 110. He is also an advocate of gauze drainage, as these wicks, used even only a few hours, by capillarity will remove a large quantity of fluid, some of it presumably septic. The irritating effect of the gauze causes immediately after the drainage of the fluid the formation of adhesions which wall off the infected area and prevent further reinfection. For drainage of the pelvis he uses gauze wicks, and among them places a glass tube, not on account of its value as a drain, but to keep the gauze in the original position and prevent its being entangled by intestinal movement. He also advocates the elevation of the head of the bed, and his own experience with this has been satisfactory. Reference is also made to an article on enterostomy in selected cases of peritonitis, published in THE JOURNAL for July, 1903. The procedure has proven effective in desperate cases. For details the reader is referred to the original. In looking over his records he finds he has operated in 34 cases of general peritonitis, not including cases covering only a slight area; 23 of these were due to perforative appendicitis, of which 10 recovered and 13 died, most of the fatal cases being in a very poor condition. Of the 11 remaining cases 4 were due to salpingitis; 1 recovered and 3 died; 1 due to perforative typhoid ulceration also died; 2 to rupture of the intestine by external violence, with 1 recovery and 1 death; 1 to perforated gastric ulcer, which recovered; 1 fatal case due to perforating duodenal ulcer; 1 to perforation of the posterior cul-de-sac by a splinter of wood introduced through the vagina. This forms a total of general peritonitis from all cases of 34 cases, with 20 deaths. The mortality of the early cases has been low, and it should be remembered, as stated above, that a number of cases of slight peritonitis were not included in these figures. In view of the recent advocacy of the rest treatment of peritonitis and of the great conflict of opinion as regards the methods, he thought it best to present his reasons for his own attitude on the subject.

19. Movable Kidney.—One hundred and twelve cases of movable kidney were detected in 272 out-patients at the Boston City Hospital during Larrabee's four months' service in 1902, children not included. The right kidney alone was affected in 98 of the 112 cases. Movable kidney seems to be most frequent in young adult life, but there were 5 cases over 60 years of age and 1 over 70. Of the 93 Americans in the series, 37 per cent. had this condition; of the 69 Irish, 51 per cent.; of 41 natives of British provinces, 49 per cent., and of 22 Russian Jews, 30 per cent. It was found a little more frequently in the married and widowed than in single women, though the difference was not very great. Fifty of the cases were multiparæ; 1 a unipara; 51 had never been pregnant. The cases showed markedly the effects of emaciation as a causal factor. Trauma was given as a probable cause in one instance, and all but 9 patients were either cor-

sets or other constricting articles of clothing. The symptoms were not characteristic, but were as noticeable in cases without floating kidney as in those with it. In no case was there any evidence of hydronephrosis, gangrene, malignant disease, severe hemorrhage or other serious complication. Treatment was thought unnecessary in 87 of the 112 cases, and the patients were not informed of the presence of the anomaly. In 1 case in which this was inadvertently done, symptoms immediately appeared. Two women were advised to wear different corsets; 25 were advised to wear swatches, this being rather for the enteroptosis or laxity of the abdomen in some of the cases. Surgical treatment was not advised in a single instance. Lund says that with over two-fifths of the women of certain classes having movable kidney one ought to be very cautious in attributing such common indefinite symptoms as backache, dyspepsia and neurasthenia to this cause, and when a movable kidney is found it should be borne in mind in treating the case, but unless there is reasonable ground for attributing the symptoms to this it is best not to draw the patient's attention to its existence. The frequency and innocuousness of the lesion would seem to refute the extreme surgical view. Nephrorrhaphy undoubtedly has its place, especially in serious complications such as hydronephrosis or pyonephrosis or severe crises. It is justifiable where there are disabling symptoms that can not be relieved otherwise or when the patient prefers the risk of operation to the discomfort of bandages. It should be remembered that temporary bandaging may tide over a condition of debility during which these symptoms have appeared. Particularly in cases where the symptoms are predominantly nervous, one should not advise operation unless the condition and symptoms can be attributed with a reasonable certainty to the lesion.

20. Diseases of the House Officers in Hospitals.—Emerson has studied the mortality statistics of house physicians and surgeons in the Boston City Hospital for the past ten years. While the number of cases has been too few and the time too short to offer definite conclusions, the records of the medical and surgical services, 60 men each, and contagious, 70 men, would indicate that the danger of house officers having pneumonia, phthisis or typhoid is very small, only one of these cases occurring in the medical service, and then in an individual of low resistance. The nasopharyngeal and febricular affections occurred in the ratio of 12 in the medical staff to 1 either surgical or pathologic. The danger of infection in the examination of moist cultures and sputum is very slight, and there is little evidence in the ten years' records that a house officer's general condition is a marked factor in the question of infection by a contagious disease. In six months' service the chance of a member of the service taking diphtheria infection, including mild cases, is one in two, of scarlet fever, one in seven. The influence of improved living quarters and facilities for proper exercise on the health of house officers is marked. It should be urged on house officers that the sense of fatigue occurs more often as a result of nervous tension and indoor air than of muscle exhaustion, and that it is relieved by proper exercise and baths. The tabulated comparison of the conditions at the end of service of men who exercised and men who did not is so striking as to demand that the attention of all similarly situated persons be given to this matter.

21. Bovine Tuberculosis.—Larned concludes his article in this issue, and insists on the importance of the tuberculin test by which it is possible to very materially reduce tuberculosis in cattle and, it may be, to eventually exterminate it.

Medical News, New York.

November 28.

- 22 *Diet and Drugs in Nephritis. William S. Gordon.
- 23 *Mastoid Disease and Cerebellar Abscess. Seymour Oppenheimer.
- 24 *A Discussion of Some Common Forms of Liver Disturbances. A. P. Stoner.
- 25 *The Best Method of Dealing with the Stump in Appendicectomy. Howard Lillenthal.
- 26 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) Charles F. Painter and William G. Erving.

27 Primary Osteoplasty in Open Fractures or Fracture Dislocations. Thomas H. Manley.

22.—See also abstract 36 below.

23. Mastoid Disease and Cerebellar Abscess.—Oppenheimer describes the conditions and mechanism of cerebellar abscess from mastoid disease and the general treatment of the condition, pointing out that it may be, in the second stage, practically latent for a considerable time. The third stage supervenes with the symptom group characteristic of severe otitic intracranial infection, the symptoms sometimes pointing to the localized cerebellar abscess, but more frequently the condition is only localized after operation. When the first stage is not recognized and the intracranial condition continues without surgical relief, the fourth or the terminal stage is one of gradual death from exhaustion and coma, or sudden, according to the direction in which the abscess ruptures. The first stage is characterized by the symptoms of acute infection and extension of mastoid suppuration to the intracranial contents. The detailed symptoms are given at length. The diagnosis of cerebellar abscess is not always possible by local symptoms: Occipital headache, temperature slightly elevated, normal or subnormal, sometimes nystagmus and paralysis of the sixth nerve, cerebellar ataxia and vertigo if the vermis is affected, a rapid loss of flesh and strength, etc. The multiplicity and confusion of symptoms is very marked. The treatment is necessarily surgical. After the abscess has formed the best plan is to first open and explore the mastoid cells and, failing to find the cause, open the cranium in the groove for the lateral sinus and so obtain access to both the middle and posterior fossæ. A bibliography of 65 references is appended.

24. Liver Diseases.—Stoner describes the various conditions of liver disease. Hyperemia he thinks is seldom caused by the two factors to which it is sometimes credited; suppression of menses and hemorrhoidal bleeding. Cirrhosis he accepts as usually the result of infection, either direct or indirect. Alcohol is frequently responsible for the condition even in children. In many cases abnormal fermentation in the bowels is responsible.

25. Appendicectomy.—The criticisms of the method of ligation and cauterization of the stump are answered by Lillenthal, who holds that ligation cuts through the mucosa, and in this way permits occlusion by union of the submucous coats. In cases where there is great infiltration of the walls, with friability, it is best to bluntly crush the rigid root of the organ with a clamp or forceps and then apply the ligature to the crushed tissues. Of course this can not be done with complete gangrene of the stump. The second criticism, that adhesions are apt to form with a stump of this kind, is, he thinks, based on insufficient evidence. He has had the chance of examining post-operative conditions in a number of cases treated by ligation and cautery, and 3 cases of fatal peritonitis examined from three to six days after operation showed adhesions everywhere else but not at the stump, which could not be found. It had been cast off with its ligature, and only a smooth cicatrix on the surface of the cecum remained. In a number of other patients on whom subsequent operations for other conditions were undertaken months and even years after the removal of the appendix, the only evidence of the ligature was a smooth, white cicatrix; no adhesions whatever. He believes, therefore, that the treatment of the stump by the method of ligation is the only way in which adhesions may be avoided. The cauterization he uses is that by strong carbolic acid. A minute drop of the 95 per cent. solution is taken up with a closed artery clamp as ink is taken up with a pen, and after protecting the surrounding tissue with gauze the acid is thoroughly applied two or three times to the mucous lining of the stump until the little funnel is completely whitened. In from fifteen to thirty seconds the stump may be dropped back into the abdominal cavity with no danger to the other structures that may come in contact with it. This method of treating the stump has stood a satisfactory

test in his experience in many hundred operations during the past ten years.

26. Chronic Villous Arthritis.—Painter and Erving's article is concluded in this issue. They find that chronic villous arthritis is not a disease of itself, as has been claimed, but occurs associated with chronic diathetic disease involving other tissues, and is representative in such cases of the same pathologic changes that subsequently occur in other structures of the joint. The two principal diatheses which cause this are rheumatoid arthritis and osteo-arthritis. The villous changes are the symptoms, not the disease itself. Traumatism entirely apart from any diathesis, is capable of giving rise to a local villous hypertrophy which goes on to a dense fibrous growth and keeps the joint in a constant state of injury from its traumatic effects. Traumatism associated with an osteo-arthritic diathesis, is frequently the excitant of local synovial hypertrophy, but these changes are more the result of the traumatism than of the stirring-up of the diathesis. Stout flabby adults with pronated or flat feet are more liable to the type of fringe which undergoes fatty degeneration with a minimum amount of fibrous change. This may occur with pregnancy and with the tissue relaxations of nervous prostration and the "soft" condition of so many rapidly-growing and sickly children at the period of puberty. Alteration in the mechanism of weight bearing is not the prime cause of this condition in many of the knee cases, though a frequent contributing factor which should be considered in the treatment, but simple flat feet or pronated feet can hardly cause this condition alone. The operative treatment in selected cases gives eminently satisfactory results when it is fully understood what the operation contemplates. Conservative treatment in suitable cases, though a very small class, gives equally good results. The main thing is to distinguish between the two classes. Judging from the pathologic findings, the condition is the result of a chronic inflammatory process which, acting on the normal villi, cause their hypertrophy with increase of the blood vessels. This becoming chronic on account of the continuation of toxic cause or to intermittent or slight trauma, the vessels are unable to supply the needs of the new tissue, being thus affected by inflammation. They therefore become gradually obliterated by endarteritis with almost complete loss of blood supply and the disappearance of normal fibrous tissue. The latter either undergoes necrosis and hyaline degeneration, or disappears, leaving the tissue that can be nourished by a limited supply of blood, usually the adipose. In this necrotic condition separation of the pedicle and the formation of a loose joint body can easily occur.

Cincinnati Lancet-Clinic.

November 23.

- 28 *Typhoid Gangrene of the Lower Extremities—134 Cases—Spontaneous and Surgical Amputations. B. Merrill Ricketts.
29 *Malaria. George J. Monroe.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

28. Typhoid Gangrene.—Ricketts begins his article with a few remarks on the pathology and treatment by amputation. The most favorable cases for this latter are those involving the toes and feet and lower leg during convalescence, and he gives abstracts of reported cases. Spontaneous amputation should not be encouraged, as a rule, though in a few cases in the aged it should be carefully considered. The article is to be concluded in the coming issue.

29. Malaria.—Monroe reports a case which apparently in the beginning was that of phthisis and treated accordingly, but it subsequently showed symptoms of malaria controllable by quinin. All the lung symptoms and physical signs disappeared. The patient was an excessive smoker, which is mentioned in connection with the case, though no deductions are drawn.

St Louis Medical Review.

November 21.

- 31 Stenosis of the Lacrymonasal Duct. J. C. Buckwalter.

November 23.

- 32 *Gymnastics in Medicine. F. W. Abeken.

32. Gymnastics in Medicine.—Abeken advocates the use of exercise in various conditions, notably diabetes, and other conditions, beginning with disturbances of metabolism. He specially insists on their prophylactic value.

Bulletin of the Kentucky State Medical Association, Louisville. November.

- 33 *Colles' Fracture. Fred D. Cartwright.
34 *Fractures of the Femur. H. P. Sights.
35 A Method of Dealing with Fractures. J. B. Taulbee.

33.—This article appeared elsewhere. See THE JOURNAL of August 22, title 144, p. 523.

34. Fractures of the Femur.—Sights concludes that while experience and teaching have been discouraging as regards fracture of the neck of the femur, yet with appropriate treatment we may expect bony union. Age is not a contraindication to treatment. The best results are obtained from perfect immobilization and approximation. The plaster-of-paris cast and Buck's extension are not the best methods. The use of suspension apparatus is more comfortable to the patient, convenient to the nurse and favorable as to results. Old ununited fractures can only be relieved by operative treatment, and in these the x-ray gives valuable aid.

St. Louis Courier of Medicine.

November.

- 36 *Diet and Drugs in Nephritis. William S. Gordon.
37 Induction of Labor by Means of a Modified Champetier de Ribes' Balloon. Herbert Old.
38 Anemia Infantum Pseudoleukemica (von Jaksch), George M. Tuttle.

36. Nephritis.—Gordon insists on the value of the diet in nephritis, and believes that gout and lithemia are responsible for a large number of cases. He considers that the milk diet should often be discontinued as furnishing too much urea. It also fails to supply the blood with sufficient nourishment or sets up lactic or butyric fermentation. No routine diet should be adopted. In many cases, however, an exclusive milk diet is of value. His own rule is to regulate the diet so as to obtain a normal urine. As long as the urine is normal the kidney will in the majority of cases improve. He remarks as regards nitrogenous foods that fowl, game, fish and eggs are liable to be as bad as butcher's meat in these cases, and especially eggs, which have been disastrous in some cases in his experience. He is not a skeptic as regards drugs, and insists on the use of diuretics and diaphoretics, and extols the good effects of cholagogues, in acute cases especially, and in chronic cases when diaphoresis or diuretics are contraindicated. For emergencies pilocarpin stands by itself. Nitroglycerin is sometimes invaluable in acute cases, and iron is pre-eminent in cases where anemia has set in and the blood vessels need to be nourished. As regards the preparation, he still favors the old tincture of the chlorid. When it fails, other preparations may be used. In anemic convulsions, chloral hydrate and the bromids are useful. He does not hesitate to use morphin where required. Veratrum viride is a drug with which he has had limited experience, but its virtues as a reducer of pulse tension are well established. In acute inflammatory conditions with strong pulse, aconite is valuable. For the debility of sub-acute and chronic nephritis, stimulation must be employed, and alcohol may be beneficial in elderly people—best given with the food. Strychnin is useful in many cases when the pulse is soft, thin and frequent. Taken all in all, it is the best remedy in our possession for weakness and exhaustion of the nervous system, while with hypophosphites it will stimulate with results unattainable by either drug alone.

The Laryngoscope, St. Louis.

November.

- 39 The Tonsil at Birth. Harris P. Mosher.
40 *Adenoid Growths with Special Reference to Adult Conditions. James E. Logan.
41 *Gangrene of the Tonsil. Charles W. Richardson.
42 A Synopsis of My First Hundred Mastoid Operations. C. Barck.
43 Progress in Otology in Fifty Years. Fayette C. Ewing.
44 Naso-pharyngeal Fibroma—Exhibition of Specimens and New Forceps. J. A. Stucky.
45 The Tonsil Snare. W. H. Peters.

40. **Adenoids in Adults.**—The points brought out by Logan are summarized by him in substance as follows: (1) The importance of early recognition of adenoids in children by the general practitioner. (2) Their prompt removal when extensive or interfering with the development of the child, especially in case of exposure to exanthemata. (3) When present in patients suffering from eruptive diseases, attention must be directed to proper disinfection of the pharyngeal vault. (4) In patients exhibiting enlarged faucial glands there generally exist hypertrophies in the vault—the reverse condition does not always obtain. (5) That hypertrophy of the pharyngeal glands in adults is not rare. As a rule, it is dependent on pharyngeal changes during childhood, and is not developed after puberty. (6) That operative interference is warranted in every instance not only to relieve existing dependent conditions, but to prevent impending complications.

41. **Gangrene of the Tonsil.**—Richardson reports a case and remarks on the scantiness of the literature on the subject. The patient died of extreme sepsis. Antitoxin proved ineffective. From a clinical history of the case he thinks diphtheria was not the cause. If it was a case of spirillum infection, it was certainly a very marked manifestation. He is inclined to consider it the result of quinsy, with streptococcal infection causing gangrene and destruction of the tissues.

Interstate Medical Journal, St. Louis.

November.

46 *The Present Status of Stomach Surgery. A. J. Ochsner.

47 *Complete Obstruction of First Portion of Duodenum Due to Gallstones—Report of Case. Paul Y. Tupper.

48 Removal of a Five-cent Piece from a Strictured Esophagus. A. V. L. Brokaw.

49 *The Hypodermic Use of Mercury in Syphilis. S. P. Collings.

50 *Pancreatitis Diabetica. Francis T. B. Fest.

46. **Stomach Surgery.**—In most cases of diseases of the stomach requiring surgical interference there is defective drainage, though not infrequently extra-gastric conditions give rise to the symptoms. The diagnosis is described by Ochsner, who calls attention to gallstones as the first possibility of confusion, and points out the differences between their symptoms and those of gastric ulcer, such as pain to the right around the side and back and in the vicinity of the liver, pain and tenderness between the junction of the ninth rib and its cartilage and the umbilicus. He also remarks as regards gastric crises of locomotor ataxia. All of the stomachic conditions can be relieved by making a gastroenterostomy between the lowest point of the stomach and the jejunum, large enough to permanently drain the organ. For this purpose he advocates the McGraw elastic ligature which he has used in his last 34 cases. It is easy of application, the fact that neither the intestines or stomach are opened and that the anastomotic opening can be made long enough to prevent future obstruction due to its contraction are advantages. He says:

1. A round rubber cord 2 mm. in diameter, made of the best material, should be used. 2. A posterior row of Lembert sutures is applied. 3. A long, straight needle armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 cm. away from the point of introduction. 4. While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine. 5. The same step is repeated through the stomach. 6. A strong silk ligature is placed across and underneath the rubber ligature between the latter and the point where the stomach and intestine come together. 7. A single tie is made in the rubber ligature after the latter has been drawn very tightly. 8. The silk ligature is passed around the ends of the rubber ligature where they cross and tied securely three times. 9. The ends of the latter are released and cut off, being held by the silk ligature. 10. The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied. 11. Care must be exercised to prevent tying the rubber too far backward, and thus getting behind the posterior row of Lembert sutures.

He is thus explicit in describing the steps of the operation since he finds that a thorough familiarity with the method seems to give good results. He has not had satisfactory experience with the pyloroplasty, but the Finney method is undoubtedly the best, and it should be restricted to cases where there is a sufficient amount of tissue to make the new pyloric opening very large. Pylorotomy will, he thinks, be more and more employed and should always consist in the excision of more than 3 cm. of duodenum beyond the malignant growth

and the removal of at least two-thirds of the stomach together with the lymphatics and the lesser omentum, even when the carcinoma is not advanced. This is important because the lesser curvature of the stomach is likely to be infected to a considerable distance from the original growth even in the earlier stages. Gastroclomy can be indicated only in a very small number of unusual cases. Gastrostomy is indicated in all cases of obstruction of the esophagus due to carcinoma in which starvation is imminent, and in cases suffering from benign stricture which can not be dilated from above. This operation is here indicated for the purpose of making retrograde dilatation. It is not likely that gastroduPLICATION will ever again be in favor in the future. Elevating the stomach in gastropexy is an operation still to be tested, though some authors, notably Beyer, speak well of it. Ochsner's own observation has convinced him that in severe pathologic lesions which can not be relieved medicinally in a reasonable period, nor traced satisfactorily to a neurosis not secondary to gastric disease, nor to other conditions mentioned, surgical treatment is indicated and should be undertaken reasonably early.

47. **Obstruction from Gallstones.**—Tupper reports his case and discusses others in the literature. He concludes from the whole that when bowel obstruction occurs in patients who have had inflammatory trouble in the region of the right hypochondrium, erratic gallstones are to be considered as a probable factor, and more probably in a woman past middle life. On account of its proximity and the fixedness, the duodenum is the most frequent avenue of escape for calculi ulcerating from the gall bladder. The colon is next in order. Other portions of the small intestine are rarely perforated. The calculi entering the duodenum are generally carried farther into the small intestine and arrested in their progress by the gradual diminution in the lumen of the bowel. Gallstones ulcerating in the colon rarely cause obstruction, but are usually passed readily per rectum. When gallstones smaller than the lumen of the intestine cause obstruction, it is probably because of the so-called "decubital irritation and angulation" of Pilcher. The site of bowel obstruction can be often approximately located by symptoms such as the presence or absence of meteorism and the presence or absence of bile and feces in the vomit. The lower portion of the small intestine is frequently the site of obstruction caused by migrating gallstones. Lodgment in the lower duodenum is rare. Lodgment in the duodenum between entrance of the bile duct and the pylorus must be exceedingly rare. He found no case on record except the one here reported. The character of the obstructing body in this case was also unique in that it consisted of a collection of faceted calculi rather than the single large gallstone usually found.

49. **The Hypodermic Use of Mercury in Syphilis.**—Collings advocates the hypodermic use of mercury. After considerable experimentation he has adopted the following solution made up in a 2 per cent. solution of chloretone:

R.	Hydrargyr bichloridi, C. P.	grs. viiiss	50
	Sodii chloridi	grs. iv	25
	Aquæ destil, fl.	3i	4
Mix and make a solution by gentle heat.			
	Chloretone	grs. viiiss	50
	Aquæ destil, fl.	3v	20
	Alcoholis absoluti	min. xv	1

Dissolve chloretone in 20 c.c. distilled water, add alcohol and, finally, add the mercury and sodium solution. Shake well and filter.

This makes a 1 to 50 solution of bichlorid, 10 minims representing 1/5 of a grain. It can be given in doses of 5 minims up to 20 or even 25. He gives directions as regards antiseptics and advises the use of the "Sub Q" syringe for injections. The cases to be selected for this treatment are largely those where there is a necessity for the patient to be rapidly brought under the influence of mercury, such as the pernicious or malignant cases, and cases of rapidly destructive lesions, cases of impending paralysis and many cases of cerebral syphilis. It is indicated in fact in all emergency cases unless there are serious contraindications, such as kidney disease. The question of its use as a routine treatment should be decided by each attending physician.

50. Diabetic Pancreatitis.—Fest reports a case observed in Honduras and deduces the following practical points from its study:

1. The secretion of the pancreas can become suspended for some time. 2. The secretion of the glycolytic ferment is the first function re-established. 3. The re-establishment of the secretion of the steatolytic enzyme occurs last. 4. The natural secretion of steapsin and trypsin can be supplanted by the introduction of same *per os* and of other enzymes as papayotin. 5. Pancreon does away with the necessity of using kreatin-coated pills, pills of pancreatin, which coating is relatively unsafe, as can be demonstrated *in vitro*.

Colorado Medical Journal, Denver.

October.

- 51 Impressions of California Resorts. Guy Hinsdale.
52 *Clinical Observations on Congenital and Acquired Transpositions of the Viscera. James R. Arneill.

52. Transposition of the Viscera.—Arneill has recently had the opportunity of seeing 6 cases of this abnormality, 3 of them within six months, all of which are more or less fully described in this article, as well as 3 others reported to him. He has corresponded with various authorities to find out its frequency and learns that it is comparatively rare in the observation of pathologists. His experience, therefore, is rather singular and he also refers to the literature, especially Gruber's articles which seem to show that partial situs transversus is a much rarer condition than complete transposition.

International Medical Magazine, New York.

November.

- 53 *Questions and Answers Concerning Puerperal Fever.
54 *The Prophylaxis of Puerperal Septicemia. Daniel Longaker.
55 *Treatment of Puerperal Infection. James Hawley Burtenshaw.
56 Puerperal Sepsis. John Chew Applegate.
57 *The Fatty Degenerative Changes in Anemia Are an Attempt on the Part of Nature to Nourish the Patient. Jennie G. Drennan.

53. Puerperal Fever.—This number opens with a series of answers by obstetricians to questions on puerperal fever. To the first question, whether there are any possible circumstances in which one would not advise emptying the uterus, the answer is almost uniformly "No." Dr. Leipziger would except the case where the patient is moribund. Dr. Hirst would curette if intra-uterine douching did not control the temperature. The opinions as to the propriety of hysterectomy for suppurative metritis or widespread infection are somewhat various. Dr. Garrigues would advocate it if the general condition is fair, excepting where streptococcal infection is present. Dr. Shoemaker considers it rarely justifiable. Dr. R. C. Norris thinks that the inability to make the diagnosis is considerable and the difficulty is in doing it early enough. When the abdomen has been opened for widespread infection hysterectomy offers the best results. Palmer Dudley, Leipziger and Krusen are unfavorable in their opinions, all holding that if it is to be of service it must be performed early, before general infection, and this involves the unnecessary sacrifice of many uteri. If late, the mortality is great and the operation practically useless. Dr. Hirst would advocate the operation. Disinfection of the hands is insisted on almost universally, and as few examinations as possible. Some, like Leipziger, would use rubber gloves, as would also Krusen and Hirst. Intra-uterine douching is used by Garrigues and by Hirst when he suspects gonorrhea. Krusen considers it useless if the uterus is thoroughly contracted and no major manipulations have been required. The intravenous injection of formalin solution in the treatment of general streptococcal infection has not been observed to have had beneficial results by Shoemaker and Norris, while Leipziger, Krusen and Hirst have never tried it. Phlegmasia alba dolens is usually treated by nearly all of them by rest, elevation, ichthyol, elastic bandaging, and general attention to the health and strength.

54 Puerperal Septicemia.—Longaker insists on the importance of early attention to the pregnant woman, insisting on careful inspection and that the keynote in the prophylaxis of infection in labor is the "touch n.e not" policy. He believes in the more general use of external palpation rather than internal examinations. The nurse is a very important factor in the health of the patient and a thoroughly aseptic, clean nurse is essential. All appliances must be thoroughly aseptic. He would use hot saline solution or lysol or creolin after a dry

labor or an exceedingly prolonged one. The points specially deserving attention are to have the patient approach labor in good health, free from local disease, and have her surroundings clean, especially the nurse; have nothing touch her with the slightest suspicion of contamination; infrequent vaginal examinations and frequent palpation, and have nothing touch the birth canal during the early days of the puerperium—not even a sterile catheter. All the wounds occurring in the process of labor must be as carefully dealt with as less serious ones under less important circumstances.

55. Puerperal Infection.—Burtenshaw disbelieves in curettage of the septic uterus and has never obtained satisfactory results from uterine or vaginal tampons soaked in formalin or with alcohol, as compared with the results from iodoform gauze. In private practice he has been in the habit of introducing a suppository, containing 15 to 30 grains of iodoform, into the uterus, and packing the cavity with plain sterile gauze, repeating the procedure once or twice on succeeding days. He has never favored continuous irrigation, but he thinks it might be of benefit in putrid infection or sapremia, but not in genuine septicemia where the pathologic organisms penetrate deeply. Hysterectomy can hardly be performed early enough to be of value. A thorough evacuation of the bowels is important and the necessity of free diuresis is also apparent. In some an effective agent for this purpose is to be found in saline solutions. The use of antistreptococcal serum has been disappointing and the intravenous injection of formalin solution has met with little favor. He considers Pryor's method of opening the posterior cul-de-sac and packing the pelvic cavity with 10 per cent. iodoform gauze an excellent plan, and it is hardly necessary, he thinks, to refer to the favorable results obtained from normal salt solution injections, either hypodermically, intravenously or rectal. His experience with silver preparations has been limited. The supporting of the patient's vitality is an important factor, and attention to the diet and stimulation are necessary. The administration of drugs should be limited, but ergot, strychnin and quinin are always indicated. He thinks that an assimilable form of iodine would give good results. The patient's temperature should always be controlled by cold-water sponging and ice packs, never by drugs.

57. Fatty Degeneration and Anemia.—Drennan holds that fatty degeneration occurring in anemia is simply a laying-up of material for future nourishment. In the stage of fatty degeneration the anemic patient, she says, really lives on his own adipose tissue, that which is removed being replaced by more.

New York State Journal of Medicine, New York.

November.

- 58 The Past and Present Needs of the Medical Profession. Frederick H. Wiggin.
59 Address of President to Council and Fellows, N. Y. State Medical Association. Frederick H. Wiggin.
60 *Physiologic and Therapeutic Actions of Alcohol. Alexander Lambert.
61 *Experience in the Medical Uses of Oxygen. C. A. Greene.
62 *A Large Dose of Chloral Hydrate. Thomas J. Acker.
63 *Present Status of the Treatment of Retro-displacements of the Uterus. Harvey P. Jack.
64 Syphilis as a Contagious and Infectious Disease. William J. Meyer.
65 Some Remarks on Hemophilia, with a Report of Cases. J. C. Hutchinson.

60. Alcohol.—Lambert's article is largely a critical review of the report of the Committee of Fifty on the "Physiologic Aspects of the Liquor Problem," and the monograph of Rosenfeld on the influence of alcohol on the organism. He concludes that while alcohol has a decided therapeutic value, its probable field of usefulness is more restricted than generally considered. Like all of our best remedies it is a poison, and this fact should never be forgotten.

61. Oxygen.—Greene finds the use of oxygen exceedingly beneficial in a number of conditions. He advises its preparation by careful washing three times through a mild solution of potash and then pure water to rid it of chlorine. He has seen the most marked favorable results from the daily use of oxygen in bronchial attacks with heavy expectoration and abrasion of the mucous lining of the larger tubes. When there is an undilatable condition of the air cells or obstruction

of the larger bronchial passages, its inhalation should be used slowly, but with persistence, retaining the oxygen as long as possible. The air being entirely fresh in the inhaling room, the patient should be directed to make ten full nasal respirations between each inhalation of oxygen, breathing more deeply each time, and the oxygen breathing should be made a little more firmly and decidedly until 10 to 15 full inhalations are taken. After the air vesicles can be fairly well filled eight or ten inhalations will be sufficient at one sitting. Too much inhaling may cause cerebral hyperemia and nervous excitation and might produce hemorrhage. He also insists on nasal respiration during at least two hours of the day in the open air. In the congestion from ordinary causes and more or less severe lobar pneumonia nothing is more effective than the careful, persistent use of oxygen. He also advises it in neurasthenic conditions in sedentary persons and remarks on its value in cerebral hyperemia where there is a marked inclination to arterial or venous stasis, and especially in alcoholic and drug habitués.

62. Chloral Hydrate Poisoning.—Acker reports 22 drams of bromidia being taken at one dose with suicidal intent by a patient with acute mania. This dose contained 330 grains of chloral hydrate, 330 grains of potassium bromid $2\frac{3}{4}$ grains of extract of cannabis indica and $2\frac{3}{4}$ grains of extract of hyoseyamus. The treatment was the use of tincture of nuxvomica, 5 drops, a teaspoonful of brandy and half a cup of hot, strong coffee and bags of hot water applied to the extremities followed by hourly 2-drop doses of tincture of nuxvomica and all the coffee the patient could swallow. In two days she had apparently recovered without any bad effects; and she was subsequently sent to an asylum.

63. Uterine Retrodisplacements.—Jack holds that cases should be carefully studied and that many, if seen early, can be cured without an operation by hygienic measures. That in cases where operation is required, suspension of the uterus offers the best means of cure.

Vermont Medical Monthly, Burlington.

September 25.

- 66 Case of Retroversion with Fixation, Appendicitis and Floating Kidney; Necessitating Ventrifixation, Removal of the Tubes and Ovaries and Fixation of the Right Kidney at One Sitting. A. Laphorn Smith.
- 67 *A New Thermophila. Dell B. Allen.
- 68 Atrophic Nasal Catarrh. L. R. McCready.
- 69 Organic Iron Medication in Secondary Anemias. Lino S. Chibas and G. A. De Santos Saxe.

67. A New Thermophila.—The organism here described by Allen is an aerobic bacillus, non-motile, non-flagellated, staining with the Loeffler and Gram solutions. It was derived from renal pus. Its peculiarity is its reaction to heat. There was no appreciable growth on bouillon at 37 C., and only a slight one on agar. It did not begin to grow freely until 60 C. Its most luxuriant growth was at 75, and at 90 it dies. There was no gas formation either before or after heating, and it is non-pathologic for guinea-pigs.

Medical and Surgical Monitor, Indianapolis.

November 15.

- 70 *Masked Epilepsy. W. B. Fletcher.
- 71 *Principles in the Treatment of Chronic Otitis Media Purulenta. John F. Barnhill.
- 72 Therapeutic Value of Heat and Cold Applied to the Spinal Cord. W. Frank Glenn.
- 73 Some Recent Observations on the Action and Therapeutic Value of Currents of High Frequency and High Potential. Curran Pope.

70.—See abstract in THE JOURNAL of October 24, p. 1041.

71.—Ibid., October 31, p. 1105.

American Practitioner and News, Louisville, Ky.

October 1.

- 74 Fecal Impaction of the Cecum; Report of a Case. W. R. Burr.
- 75 The Inhumanity of Refusing the Parturient Woman the Boon of Anesthesia. I. A. Shirley.

Therapeutic Gazette, Detroit.

November 15.

- 76 A Brief Consideration of the Treatment of Puerperal Eclampsia. Joseph W. Irwin.
- 77 Medicinal Treatment of Gallstones. H. Richardson.
- 78 The Treatment of Angina Pectoris. William F. Waugh.

- 79 Treatment of Influenza with a View to the Preventive Treatment of Pneumonia. F. H. Brandt.
- 80 The Structures Taking Part in Menstruation. E. E. Montgomery.
- 81 Tubal Menstruation—A Case History. P. Brooke Bland.

Alabama Medical Journal, Birmingham.

November.

- 82 Report of Capital Operations During May, June, July and August at St. Vincent's Hospital. Cunningham Wilson.
- 83 The Diagnosis and Treatment of Ectopic Gestation, with Report of Two Cases. W. P. McAdory.
- 84 Tetanus, with Report of Case. Z. B. Chamblee.
- 85 A Case of Epithelioma Treated with the X-ray by R. L. Bowcock, M.D., Anniston, Ala. William Taylor.

Canadian Practitioner and Review, Toronto.

November.

- 86 *Address, University of Toronto. Charles S. Sherrington.
- 87 *The Master-word in Medicine. Wm. Osler.

86.—This article has appeared elsewhere. See THE JOURNAL of November 14, paragraph 107, p. 1233.

87.—Ibid., November 21, title 127, p. 1303.

Southern California Practitioner, Los Angeles.

November.

- 88 Cholera Infantum and Intestinal Inflammation of Infancy, with Case. E. Henderson.
- 89 The Method of Spread of the Contagious Respiratory Diseases. J. O. Cobb.
- 90 The State Examination in Medicine. L. S. Thorpe.
- 91 The Pathology of Eclampsia. E. L. Leonard.
- 92 Postpartum Eclampsia. Leon Roth.

Pennsylvania Medical Journal, Pittsburg.

November.

- 93 The Individual Equation of the Patient in Surgical Operations. William L. Estes.
- 94 *The Necessity for the More Careful Instruction of Medical Students in the Diagnosis of Preventable Diseases. Benjamin Lee.
- 95 *Streptococci and Antistreptococcus Sera. D. H. Bergey.
- 96 *Some Points on Appliances for Bacteriologic Work by Busy Country Doctors. A. C. Wentz.

94.—See abstract in THE JOURNAL of October 17, p. 981.

95 and 96.—Ibid.

Western Medical Review, Lincoln.

November 16.

- 97 *The Operative Craze. A. S. v. Mansfelde.
- 98 *Precision in the Diagnosis of Surgical Lesions in the Right Half of the Abdomen. B. B. Davis.
- 99 Management of Typhoid Fever. A. E. Mack.
- 100 The Battle-field and Camping-ground. George W. Wilson.

97. The Operative Craze.—Von Mansfelde protests against too much surgery. He thinks the surgeon should be first of all a good physician and should follow Kocher's advice and have at least two years' experience in a general hospital and ten years' private medical practice before becoming a surgical specialist.

98. Abdominal Surgery.—Davis points out the difficulties of diagnosis in the region of the right half of the upper abdomen, and suggests the following questions to be asked in each case: Is the lesion found capable of producing the symptoms complained of? Does it account for all the symptoms? Does any other abdominal lesion exist, and if so, what part does it play; which is primary and which is secondary? Will the surgical cure of the disease or diseases found cure the patient, and if so, what chances are there for his surviving the operation? Will the benefit overbalance the operative risks?

Pacific Medical Journal, San Francisco.

November.

- 101 Postoperative Lung Complications. Winslow Anderson.
- 102 Case of Gunshot Wound of the Bowels. J. B. Kelly.
- 103 Pultaceous Angina. William F. Waugh.

Iowa Medical Journal, Des Moines.

November 15.

- 104 Intoxication in Appendicitis. Edward Hornbrook.

Dominion Medical Monthly, Toronto.

November.

- 105 *Cardiac Complications of Influenza. E. G. Wood.

105.—This article has appeared elsewhere. See THE JOURNAL of October 31, ¶4, p. 1111.

Texas Medical Journal, Austin.

November.

- 106 The Effect of the Higher Education of Women on Wifehood and Motherhood. J. W. Carhart.

Journal of Eye, Ear and Throat Diseases, Baltimore.

September-October.

- 107 Fibroma of the Conjunctiva; Lymphoma of the Pharynx; Infection of the Antrum of Highmore, with the Micrococcus Tetragenus; Three Cases of Rhinitis Fibrinosa in the Same Family. Richard H. Johnston.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 21.

- 1 *The Diagnosis of Pulmonary Tuberculosis. C. Theodore Williams.
- 2 *The Treatment of Some Acute Visceral Inflammations. D. B. Lees.
- 3 The Mechanism of Respiration to Pneumothorax. Arthur Edmunds.
- 4 *Two Cases Illustrating the Fallacy of Certain Physical Signs in Diagnosing Acute Perforated Gastric Ulcer. W. Harland Peake.
- 5 *A Preliminary Report on the Treatment of Advanced Pulmonary Tuberculosis by Intravenous Injections of Iodoform. Thomas W. Dewar.
- 6 Case of Aortic Disease with Unusual Course. H. E. Bruce-Porter.
- 7 Case of Acromegaly. W. B. Hunter.

1. Tuberculosis.—This second lecture of Williams (see THE JOURNAL, April 4, 1903, p. 941) is principally devoted to the subject of cavitation of the lungs. He first describes the mechanism, which is, in the simplest form, probably due to the necrobiosis of the alveolar wall from the results of epithelial proliferation, from irritation of the tubercle bacilli, and possibly to chemical change in the cells thus produced by the germs. It is often, but not always, accompanied by fever and cough, a change in the expectoration and microscopic pieces of lung tissue are apt to be found with abundant tubercle bacilli and other organisms. The physical signs are described. When the area of softening is small the percussion sign is unchanged, but if a large cavity is formed, the dullness gives rise to limited resonance. The well-known cracked-pot sound is not an index of the size of the cavity, but indicates that it is superficial; this sound does not appear with the deeper cavities. Cough and expectoration are invariable, and yet the constitutional symptoms are not. The cavities vary not only in size and situation, but also in kind. There are the secreting cavities with smooth surfaces that look like lining membranes, but are yet exuding a great deal of matter, dry cavities with walls composed of fibroid material with little or no secretion, probably the forerunners of caseous masses composed of fibroid material, unconnected with bronchi, found in necropsies. The secreting cavities are generally found in connection with the acute forms of the disease and often extend rapidly. The dry cavity is usually the result of chronic disease and may be stationary for months or for years, causing nothing but a morning cough and expectoration. The secondary cavities are formed through the re-inhalation of secretion or sputum of primary cavities, which follow the line of certain bronchi principally where the suction power of coughing is greatest. In some patients tuberculosis is followed by so extensive an amount of excavation that the presence of air in the cavity gives rise to the phenomenon of amphoric breathing and metallic tinkling from the dropping of the fluid. The diagnosis from pneumothorax in these cases is mainly by the absence of fluid in the pleura and its characteristic signs and by the different position of the auscultation sounds. The chief signs of contraction of the cavity are the flattening of the chest wall overlying the cavity and the displacement of the neighboring organs. When the cavity is on the left side, the left lung is retracted and the right lung becomes hypertrophied and drawn across the median line. The heart is raised, its apex being tilted toward the axilla. The impulse is very slight in the chest and the stomach is drawn up. With the cavity on the right lung, corresponding symptoms occur on the other side, the left lung drawn across, the liver raised, etc. Contraction of the cavity in one lung does not prevent formation of fresh tubercle in the opposite one. It may even cause curvature of the spine. The diagnosis from bron-

chiectasis is based first on the age of the patient. Young adults are not so liable to the latter condition. The subjects of bronchiectasis, except when septicemic, do not show signs of wasting or anemia. Second, on appearance and examination of the sputum, which in cases of bronchiectasis is frothy, mixed with pus and more or less offensive and free from tubercle bacilli. Lastly, on the character of the cavernous sounds and their locality. Most bronchiectatic cavities are basic, while tubercle cavities are generally at the apex. The bronchiectatic cavities may, however, be detected in the first and second interspaces, where they are always nearer the median line than tubercle cavities and are never audible over such extensive surfaces of the thorax. The percussion sound is not, as a rule, dull, but resonant from the accompanying emphysema.

2. Rheumatic Carditis and Pericarditis.—Lees advocates the free use of the salicylates. There is only one sign that indicates danger; marked deepening of the inspiration apart from pericarditis, resembling the "air hunger" of diabetic coma. This is the only contraindication to the drug, and it should be discontinued at once. The addition of sodium bicarbonate in a quantity equal to twice that of the salicylates in each dose seems to be usually sufficient to prevent the occurrence of the symptom. The tradition that the salicylate is a cardiac depressant is discountenanced by Lees, who thinks that the heart depression is probably due to impurities in the drug and probably due still more to the disease itself. The toxin produced by the rheumatic cocci, it seems, almost certainly acts on the ventricle as does lactic acid; many earlier observers have believed that the poison of acute rheumatism is lactic acid itself. More recent observers have pointed out that the so-called *Micrococcus rheumaticus* produces formic acid in considerable quantity, and these conditions would be sufficient probably to account for the heart depression. Lees thinks that it would be better if more careful attention was paid to the condition of the heart in rheumatic cases, especially as to the size of the left ventricle in the commencing of treatment. Other methods which he mentions as of value are the application of cold, which is a powerful means of repressing cardiac inflammation and, under certain conditions, keeping the patient warm, if necessary, by hot-water bottles when an ice-bag is applied to the precordium, and keeping the warmth up during the whole period of its application, using leeches, if necessary, to prevent overdistention of the right auricle. Then the ice-bag can be used with safety in any case, however severe. Where the nursing can be thoroughly trusted an ice-bag can be used continuously for days, provided the condition of the auricle is carefully watched. He asserts that the treatment of rheumatic pericarditis by large and frequent doses of sodium salicylate and sodium bicarbonate with local application of ice over the heart is amply justified by the results, while cases inefficiently treated in the same way are likely to be slow in recovery and result in permanent crippling.

4. Gastric Ulcer.—Peake calls attention to two cases which indicate that certain signs are not reliable, such as the presence of shock and collapse which may be absent while regular pulse and normal temperature exist. Liver dullness and vomiting are uncertain signs, as is also pain which was present in both cases, but is sometimes apparently not observed.

5. Tuberculosis.—Dewar advocates the use of intravenous injections of iodoform, using it in a non-saturated ether solution. He finds that this speedily saturates the system so that even the perspiration of the palms become odorous of the drug. There is a slow sustained action which at the same time diminishes the risk of accumulative action and the patient becomes tolerant of it. It is undesirable to push the injections to the extent that the appetite is affected. The diagnostic quality of the injections is valuable. The production of fine crepitations or râles at an apex formerly dry, resonant and apparently healthy is important. Against these advantages there is the chilling effect of ether which has to be guarded against. He has noticed a breathlessness

and palpitation which he thinks may be due to iodoform. Before beginning treatment it would be well to study the available superficial venous system in the arms and legs, the more extensive this is the better the chance. While nothing is easier than to give an intravenous injection once in a large vessel, there is some difficulty in giving a hundred through a small retracted vein avoiding thrombosis and have the vessel still patent at the end of the year. Iodoform is soluble in ether in 1 to 7. He uses a not quite saturated solution, as a saturated one would evaporate too quickly and block the hypodermic syringe needle with iodoform. The solution must be introduced very slowly. He has given in some cases with very large veins as much as 45 minims at one time, but does not think such a large dose necessary. He uses the finest precipitated iodoform that can be obtained and the purest ether, specific gravity 720, making the solution fresh for each patient immediately prior to injections, exposing it to the light as little as possible. His experience is that the continuous successful injections are followed by improvement in every way except in very advanced disease where it seems to be inert in moderate doses. There is no question as to its power to arrest the disease.

The Lancet, London.

November 21.

- S The Ideal Physician: His Early Training and Future Prospects. Lambert H. Ormsby.
- 9 Typhoid Fever. Seymour Taylor.
- 10 The Dawn and Rise of Physiology. William Stirling.
- 11 *The Anemias of Infancy. Clive Riviere.
- 12 A Case of Multiple Liver Abscess. Andrew Balfour.
- 13 A Case of Linseed Poisoning. J. O. Holliek.
- 14 Unusual Case of Intestinal Obstruction. Duncan Macartney.
- 15 A Brief Experience in Abdominal Surgery. B. G. A. Moyulhan.

11. The Anemias of Infancy.—Riviere sums up the conclusions of his paper as follows:

1. Anemia from any cause in infancy if severe enough gives rise to the peculiar symptoms grouped under the headings "anemia splenica infantum" and "anemia splenica pseudoleukemica" of von Jakseh.
2. Consequently, these are not specific blood diseases, but owe their peculiarities merely to the "infancy factor," and represent merely different stages of the same conditions.
3. The common cause of severe anemia in infants is gastrointestinal catarrh, leading to the absorption of toxins either from the growth of micro-organisms or possibly from the formation of poisonous by-products of digestion.
4. Leukemia of infants is not a separate disease, but merely a still more advanced stage of this anemia—that is, that the difference between them is one of degree and not of kind.
5. That leukemia of adults is a return to the condition of an infantile anemia and that, being rare, its causation is probably so narrowed down as to be practically specific.

Bulletin de l'Académie de Médecine, Paris.

- 16 (LXVII, No. 35.) *La syphilisation du singe. Hamonic.
- 17 Angine de poitrine infectieuse. J. Pawinski (Warsaw).
- 18 *De l'appendicite dans l'armée pendant les dernières années. Sur un point spécial de l'étiologie de cette affection. Chauvel.
- 19 Le surra à Hatien (Cochin-chine). Kermorgant.

16. Syphilization of the Monkey.—Hamonic claims priority for the transmission of syphilis from man to a baboon. In 1882 his experiments resulted in the development of what were apparently syphilitic lesions twenty-eight days after the inoculation of fluid from a chancre. His communication was referred to a committee which reported that the plaster casts of the lesions were not conclusive either for or against his assumption that they were true syphilis.

17. Infectious Angina Pectoris.—Pawinski claims that acute infectious diseases, especially la grippe and follicular tonsillitis, are important factors in the development of angina pectoris. He admits the predisposing influence of neuropathic conditions, excesses of various kinds, getting chilled, etc. In nearly all the cases of incipient angina pectoris under his observation the effect of the toxins of the infection on the heart innervation was unmistakably evident. When the attacks of angina pectoris persist after recovery from the infection he assumes that the inner membrane of the coronary arteries has undergone certain alterations, probably in the nature of sclerosis, which entail the true angina pectoris.

18. Appendicitis Among Non-Meat-Eaters.—Chauvel first mentions that the number of operations on account of appendicitis in the French army has materially and progressively in-

creased during the last few years. He then quotes the reports of physicians in Algiers and Tunis to the effect that the affection is almost unknown there. It never occurs among the Mohammedans and only exceptionally among foreigners residing there for any length of time. He queries whether this infrequency of appendicitis may not be due to the prevailing fruit and vegetable diet and the scarcity of meat. The Arabs are particularly liable to harbor intestinal parasites, and consequently the frequency of the latter with the absence of appendicitis show that there can not be the etiologic connection between them claimed by some.

Presse Médicale, Paris.

- 20 (II, No. 89.) La cure définitive de l'hystérie. Rééducation. P. E. Levy.
- 21 L'Injection de caféine comme auxiliaire de la saignée (adjuvant to venesection).
- 22 (No. 90.) La circulation du liquide céphalo-rachidien. F. Cathelin.
- 23 Traitement du ténia. L. C. Quéry.

Semaine Médicale, Paris.

- 24 (XXIII, No. 45.) *La Spondylite infectieuse. L. Cheinisse (Montpellier).
24. Infectious Spondylitis—Typhoid Spine.—See editorial in last week's issue.

Archiv f. path. Anatomie, Etc. (Virchow's), Berlin.

Last indexed page 1311.

- 25 (CLXXIV, No. 1.) *Experimentelle Tuberkulose. J. de Haan (Java).
- 26 Thyroid Gland in Smallpox. H. Roger and M. Garier (Paris).—Neue Untersuchungen über den Zustand der Schilddrüse bei den Pocken.
- 27 Fall von Staphylokokken-Mykosis der Haut bei Diabetes mellitus. J. B. Studenski (Kiev).
- 28 Hematologische Studien. E. Neumann.
- 29 Zur Kenntnis der direkten Kernteilung (nucleus segmentation). R. Caminetti (Naples).
- 30 Zur Histologie der Gefüßglocke (molluscum contagiosum in birds). H. Apolant.
- 31 Zur parasitären Aetiologie des Karzinoms. T. Honda.
- 32 Ueber multiple Amyloid Tumoren des Kehlkopfs und der Lunge. Beitrag zu den Amyloidfarbungen. G. Herxheimer (Wiesbaden).
- 33 *Fat Contained in Blood and in Certain Organs in Man. T. Rumpf (Bonn).—Ueber den Fettgehalt des Blutes und einiger Organe des Menschen.
- 34 *Methode zur Conservierung von anatomischen Präparaten. M. Claudius.
- 35 Acute, Circumscribed Inflammations of the Skin. W. Ebstein (Göttingen).—Ueber akute umschriebene Hautentzündungen auf angioneurotischer Basis.

25. Experimental Tuberculosis in Java.—De Haan was able to induce tuberculous infection in animals hitherto considered immune, the native goat, bullock and horse. The infection was realized by subcutaneous and intravenous injections of tubercle bacilli from human sputum. His experience further established that monkeys are extremely susceptible, and that the lesions resulting from the infection were localized almost exclusively in the lungs. Although the infection had been by way of the alimentary canal, no lesions could be discovered in the intestines, but the mesenteric glands in a few cases presented evidences of tuberculosis. One monkey who had eaten a potato serving as culture medium for tubercle bacilli, exhibited extensive tuberculous lesions in the bronchial glands. De Haan believes that tuberculosis in animals is always due to infection from man.

33. Fat in the Blood.—Rumpf has found that the proportion of fat in the blood varies essentially with the diet. It seems also to be higher in arteriosclerosis than in other conditions. Fatty infiltration of the liver is most pronounced in hard drinkers, in consumptives and in cancer subjects. As the liver shrivels under the influence of alcohol, the proportion of fat is reduced to normal or below.

34. Preservation of Anatomic Specimens.—The specimens are treated with carbonic acid and ammonium sulphate. A metal box one-third full of a concentrated solution of the latter is filled to a certain height with crystals of the salt, leaving 5 to 10 cm. of fluid above. The carbonic acid is supplied in ordinary illuminating gas brought into the side of the box through a tube from a burner. It escapes through a glass tube, passing through a cork in the opening on top of the box. This escaping gas is lighted and burns with a steady flame as the gas bubbles up through the fluid in the box. The specimens

are placed on a grating below the surface of the fluid and left for forty-eight to seventy-two hours. The hemoglobin and other pigments in the tissues, especially the biliary pigments, remain unchanged in specimens treated by this method. They are kept afterward in a saturated solution of the ammonium sulphate through which gas has been passed. Claudius is delighted with the results attained with this technic.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 1441.

- 36 (VIII, No. 1.) *Zur Pathologie der Eihäute (fetal membranes). K. Holzappel (Kiel).
- 37 Zur Kenntnis der Ganglien der weiblichen Genitalien. S. Hashimoto (Tokio).
- 38 Zur normalen Anatomie der Chorion-Zotten (VIII). H. Michaelis (Leyden).
- 39 3 Corpus-luteum-Cysten. P.
- 40 Origin and Prognosis of Ovarian Cysts. Zur Entstehungsweise und Behandlung. P.
- 41 *Rupture of Uterus During Manual Detachment of Placenta. E. Oswald.—Ueber Uterus-Ruptur bei manueller Placentablösung.
- 42 Vaginal Glands and Cysts. C. Widmer.—Ueber Scheldendrüsen und Scheldencysten.
- 43 Fall von Tuberkulose der Vulva. F. Poeverloin.
- 44 *Prolapse Operations. J. Klein (Strasbourg).—Prolapsoperationen, insbes. die W. A. Freund'sche Einziehung des Uterusfundus in die Scheide.
- 45 Zur Behandlung des Abortes. O. Nebesky.

36. Pathology of Fetal Membranes.—Among the various cases described by Holzappel is one of the exochorial development of the fetus, that is, in the ectodermal layer of the chorion. There have been only 14 similar cases previously published and he tabulates the details of each.

41. Rupture of Uterus During Manual Detachment of Placenta.—Parturition had been normal in the case described by Oswald, but in extracting the placenta with her hand the nurse perforated the uterus and drew out a loop of intestine. The patient succumbed, notwithstanding prompt laparotomy. He reviews the similar occurrences in the literature and discusses their medicolegal bearing. The case described happened at the Basle Hospital for Women.

44. Prolapse Operations.—Freund's method of fixation of the fundus of the uterus in the vagina was followed by Klein in 10 cases. The ultimate results have been faultless in 9 and healing was rapid in all cases.

Berliner Klinische Wochenschrift, Berlin.

Last indexed page 1441.

- 46 (No. 43.) *Vocal Fremitus in Abdomen. W. Alexander (Berlin).—Ueber Stimmfremitus im Bauch.
- 47 German Southwest Africa as Resort for Consumptives. J. Katz.—Deutsch-Südwestafrika als Kurort für Tuberkulöse.
- 48 Isolation of Lecithides from Snake Venom. Preston Kyes.—Ueber die Isolierung von Schlangengiftlecidithiden.
- 49 Zur Lehre von der Anemia splenica. S. M. Zypkin (Moscow).
- 50 (No. 44.) Address at Inauguration of Pediatric Clinic. O. Heubner.
- 51 Course of Pneumonia in a Splenectomized Subject. W. v. Morawski (Carlsbad).—Fieberverlauf bei einem Splenektomierten.
- 52 *Stomach Sign in Migraine and Epilepsy. Mangelsdorf.—Ueber ein Phänomen am Magen bei Migräne und Epilepsie.
- 53 Die klinische Pepsin-Bestimmung nach Mette. O. Kaiserling.
- 54 Ueber die Natur der Isohemolysine der Menschen-Blut-Sera. C. Moreschi (Pavia). (Commenced in No. 43.)
- 55 Tuberculous and Non-tuberculous Affections of Respiratory Organs in Prussia Since 1875. Ascher.—Tub. und nicht-tub. Erkrankungen, etc.
- 56 (No. 45.) *Ueber ein Typhus-Diagnostikum. M. Ficker (Berlin).
- 57 *Inhalation of Lime Dust and Pulmonary Tuberculosis. P. Reckzeh.—Kalkstaubinhalation und Lungentub.
- 58 Smooth Atrophy of Root of Tongue and Its Relation to Syphilis. F. Lesser (Berlin).—Ueber die sogen. glatte Atrophie der Zungenwurzel und ihr Verhältnis zur Syphilis.
- 59 Cranial Nerve Paralysis. C. Aronson.—Fall von multipler Hirnnervenlähmung mit Beteiligung des Akustikus.

46. Vocal Fremitus in Abdomen.—Alexander was never able to elicit the vocal fremitus in the abdomen which some writers have mentioned and cited as a sign of incipient ascites, etc.

52. Stomach Sign in Migraine and Epilepsy.—Mangelsdorf announces that he found the stomach much enlarged during attacks of migraine or epileptic seizures in 409 out of 469 persons examined. This enlargement gradually entails permanent atony of the organ. He thinks that it is of central origin. He found also that appropriate treatment of the atony of the stomach had a favorable influence on the attacks of migraine. The stomach enlarges regularly in all directions as the attack

comes on, and subsides more or less completely to normal in the intervals.

56. Typhoid Fever Diagnosticum.—Ficker has coined this term to apply to a ready-made fluid with which it is possible to obtain the Widal agglutination reaction in cases of typhoid fever, without the necessity of living cultures of typhoid bacilli. The fluid keeps perfectly for nine months at least. The reaction is perceptible to the naked eye; is absolutely unmistakable, and occurs at room temperature. The practitioner is thus able to apply the agglutination test without living cultures, without an incubator and without a microscope. The results of the test are much better adapted for comparison, as the same fluid is used instead of cultures from various sources. "The fluid is derived," he says, "once from one and the same typhoid stem." Its production requires minute care and consequently Ficker has entrusted it to a manufacturing chemist who is ready to place it on the market.

57. Therapeutic Inhalation of Lime Dust.—Reckzeh's attempts in this line resulted negatively. He was induced to try inhalation of lime dust from observation of the remarkably low death rate from tuberculosis in certain villages in which there are numerous lime kilns. Another neighboring village in apparently the same condition, but without lime kilns, has twice as many deaths from tuberculosis. He also noticed that the disease was very rare among the workers at the kilns. He treated 8 patients with severe exacerbations of a mild pulmonary tuberculosis by suspending a linen bag filled with fine lime dust in front of the subjects as they lay in bed. Their ears were plugged with cotton and eyes bandaged, and the bag of lime dust was struck occasionally to stir up the dust. This treatment was given at first five and then ten minutes twice a day. No benefit was derived in any case, and the symptoms seemed to be aggravated.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1236.

- 60 (XXX, No. 43.) *Anesthesin. Anesthesin. Dunbar (Deutsch-E) er das salzsaure Anesthesin als örtl.
- 61 (No. 44.) *Die Behandlung der Fractura supracondylar humeri mittels der Bardenheuer'schen Extension. R. Grässner.
- 62 Ueber einen merkwürdigen Fall von Perforation des Preputium. R. Burmeister.
- 63 (No. 45.) *Zur Exstirpation des Wurmfortsatzes (appendix). A. Zeller.
- 64 *Iodoform Bone Filling. W. Serenin (Moscow).—Einiges zur Iodoformknochenplombe nach Mosetig-Moorhof.
- 65 (No. 46.) Turning Back Costal Arch to Facilitate Operations. Asthoewer (Dortmund).—Die Aufklappung des Rippenbogens zur Erleichterung operativer Eingriffe im Hypochondrium und Zwerchfellkuppelraum.
- 66 *Prevention of Entrance of Air in Intravenous Infusions, etc. P. Herz (Magdeburg).—Vorschlag zur Verhütung von Luft-eintritt bei intravenösen Infusionen usw.
- 67 Simple Support for Pelvis. M. Borchardt (von Bergmann's clinic, Berlin).—Eine einfache Beckenstütze.

60. Anesthesin Hydrochlorate for Local Anesthesia.—More than a year ago Dunbar published an account of the very successful results of local anesthesia from anesthesin injected according to the infiltration technic. His own experience since then and that of others has fully confirmed his assertions in regard to its advantages for the purpose. He uses now for operations as in mastitis, atheroma, closure of incisions, ingrowing nail, extirpation of the lachrymal sac, fissure of the lids and styas a combination of .05 gm. anesthesin hydrochlorate, and salt .2 gm. in 100 gm. distilled water. No subjective nor objective indications of irritation follow infiltration with this fluid, and the wounds heal by primary intention. In normal tissues a combination of .25 gm. anesthesin with .9 gm. salt to the 100 gm. water, causes no irritation, although it induces intense hyperemia. This proportion of salt probably has some physiologic significance. For superficial work he prefers the combination first mentioned, and for the deeper layers the proportions of .25 gm. anesthesin hydrochlorate; .15 gm. salt and 100 gm. distilled water, the latter his original solution.

61. Extension in Treatment of Fracture of Humerus.—Grässner states that 5 cases of supracondylar fracture of the humerus have been treated at Bardenheuer's clinic by extension. The results have been pre-eminently excellent as he

shows by radiograms before and after treatment. He also illustrates and describes the particulars of the technic.

63. **Appendicectomy.**—Zeller argues in favor of excision instead of resection of the appendix.

64. **Filling for Bone Defects.**—Serenin was favorably impressed with the advantages of this method of treating defects in the long bones, as set forth by Mosetig-Moorhof at the Madrid Congress. The technic has previously been described in these columns, xl, pp. 1303, 1545 and 1673. Serenin reports most gratifying success in 10 cases thus treated, including 3 of necrosis subsequent to osteomyelitis of jaw, tibia or humerus, and 7 of tuberculous lesions. The bone cavity heals rapidly under this technic, but asepsis and hemostasis must be complete, and every particle of tuberculous tissue must be removed. In 3 cases he tamponed the cavity for two or three days in order to ensure absolute hemostasis, before proceeding to fill it.

66. **To Prevent Entrance of Air During Intravenous Infusion.**—Herz gives a cut of a small appliance which has proved extremely useful in Habs' clinic. It is merely a glass tube with an extension on one side, shaped like a ball, opening into the tube with a wide orifice. The outline somewhat resembles that of the ordinary breast pump. The tube is interposed in the rubber tube leading from the receptacle for the fluid to the infusion needle. All the fluid thus has to pass through the glass tube. It is allowed to flow through at first with the bulb turned down, then the bulb side of the tube is turned upward, and the fluid is ready for the infusion. As it passes along the rubber tube from the receptacle into the glass tube, all the air in the fluid escapes through the broad mouth into the bulb on the glass tube, and none passes onward into the infusing needle.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1237.

- 68 (XXVII, No. 43.) *Report of Naturforsch. Congress.
- 69 Version in Head Presentation. Gottschalk.—Zur künstlichen Drehung der Frucht besw. des Rückens bei Schädelgeburten.
- 70 Ein neues Instrument zur Uterustamponade (Tamponator uteri). J. J. Fedoroff (Warsaw).
- 71 (No. 44.) Chorioepitheliom und Ovarialtumor. J. Krebs. One Case.
- 72 Fall von radikaler Sectio Cesarea bei Schwangerschaft mit Cervix-Myom. Westphal.
- 73 Ein Instrument zur Entfernung inkarzerierter Pessarlien. H. Plwniczka (Brünn).
- 74 (No. 45.) *Vaginal Operating Without Narcosis. V. Frommer.—Zur vaginalen Operation ohne Narkose.
- 75 Ueberdehnung der Wand eines graviden Uterus bilocularis. J. Jurinka.
- 76 (No. 46.) 2 Fälle von gleichzeitiger Extra- und Intrauterin Gravidität. E. Meyer.
- 77 Fall von vaginaler Sectio cesarea bei Eclampsia gravidarum. Westphal.
- 78 Detailed Abstracts of Articles in Chrobak *Festschrift*, 1903.

68. **Relations of Functional Nervous Diseases to the Female Genitalia.**—Two addresses were delivered on this subject at the Congress, one by Krönig of Jena and one by Eulenburg of Berlin. Each discusses the subject from the standpoints of the etiology, diagnosis and treatment, and furnishes a detailed auto-abstract, impossible to condense into a few lines. Among the other communications reviewed is one by Hahn of Vienna on the great resistance of the fetus to the diseases of the mother, Veit on tuberculosis and pregnancy, and Fellner on the influence of internal diseases on the development of pregnancy, and to what extent they forbid marriage.

74. **Vaginal Operations Without Narcosis.**—Frommer advocates vaginal operating in the presence of contraindications to general narcosis, using merely suggestion and more or less infiltration anesthesia. He injects .01 gm. morphin a half hour beforehand, and finds that this aids materially in quieting the patient. She is able to advise when the uterus wall is being pushed in with danger of perforation. During narcosis the relaxed uterus is much more easily perforated. One of his 3 patients was a woman of 69 presenting prolapse of the uterus with part of the wall of the bladder and of the rectum. The second patient, a woman of 34, was operated on for vaginal rectocele, and the third, a woman of 77, for uterine cancer. In the latter case there was so little pain that the patient moaned only twice during the hour required for the total vaginal hysterectomy. Frommer thinks that injection of a weak Schleich

solution into the perineum and vulva region is all that is necessary for these vaginal operations when general narcosis is contraindicated for any cause. Gradenwitz has reported 3 cases of total vaginal extirpation of the uterus without narcosis. Asch advocates refraining from general narcosis during curettement of the uterus, and Kleinhaus has recently expatiated on the advantages of restricting narcosis in favor of infiltration anesthesia in vaginal plastic operations and simple celiotomy.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 144.

- 79 (LXIX, Nos. 5-6.) Die Frakturen des Os naviculare carpi nach anatomischen Präparaten. R. Wolff (Berlin).
- 80 Lymph Routes in Appendix and Stomach. Polga and Nyratil (Ofen-Pest).—Ueber die Lymphbahnen des Wurmfortsatzes und des Magens.
- 81 *Akoim in der Chirurgie. Daconto.
- 82 Iodized Catgut. Claudius.—Erfahrungen über Iodkatgut.
- 83 *Injury of Epigastric Vessels During Puncture for Ascites. Baum (Greifswald).—Ueber eine unter ungewöhnliche Erscheinungen einhergehende Verletzung der epigastrischen Gefäße bei Aszitespunktion.
- 84 Fall von wahrem Nabel-Adenom. Koslowski.
- 85 *Ueber 175 Bruchhalsklemmungen (Incarcerated hernias). Fuchsig and Halm (Vienna).
- 86 Eine seltene Fussgelenksluxation (ankle dislocation). Engelhardt.
- 87 *Spiral Fracture of Leg. Bayer (Cologne).—Ueber Spiralbrüche des Unterschenkels.
- 88 *Hemorrhage from Arrosion After Tracheotomy. Martina (Graz).—Die Arrosionsblutungen nach der Tracheotomie durch Kanülen-Dekubitus.
- 89 *Tardy Affections After Skull Injuries. Colley.—Ueber Späterkrankungen centralen und peripheren Ursprungs nach Schädeltraumen.
- 90 *New Method of Diagnosing Fracture of Bones. Plesch (Ofen Pest).—Eine neue Methode zur Diagnostizirung der Knoch enbrüche.

81. **Acoim in Surgery.**—Daconto recommends in place of cocain a 1 per cent. solution of acoim with .8 per cent. sodium chlorid.

82. **Iodized Catgut.**—Claudius reaffirms the superiority of catgut prepared according to his method—placed for eight days in a solution of iodine, after which it is ready for use. Just before using it is rinsed in a 3 per cent. solution of carbolic acid.

83. **Injury of Epigastric Vessels During Puncture.**—Symptoms of ileus developed after puncture for relief of ascites in the case described. A large tumor formed at the point of the puncture and an incision released a quantity of blood clots and disclosed that the epigastric artery had been injured. It was ligated and the patient recovered promptly. In similar cases on record the epigastric had bled always into the abdominal cavity.

85. **Incarcerated Hernia.**—In this report of 175 cases of incarcerated hernia it is stated that 8 out of the 14 cases of umbilical hernia terminated fatally. Out of the total 175 patients 38 had previously worn a truss which shows that a truss does not guarantee against incarceration. These experiences indicate that it is a much safer plan to bring out and keep the intestine outside the abdominal cavity when there is any question as to its vitality. Of the 35 fatal cases, 28 were due to peritonitis.

87. **Spiral Fractures.**—Bayer states that out of the 2,332 cases of fracture treated at the Cologne public hospital during the last three or four years 75 were spiral fractures below the knee. He advocates Bardenheuer's extension for all such cases and describes the technic in detail. Consolidation was complete in thirty-three days on an average.

88. **Arrosion Hemorrhage After Tracheotomy.**—Martina's 2 cases were both in women, 27 and 42 years old. The tracheotomy had been done on account of tuberculosis or carcinoma and the fatal hemorrhage occurred the eighth and twelfth day after the operation and insertion of the canula which had caused the decubitus.

89. **Tardy Affections After Skull Injuries.**—Colley's patient exhibited visual disturbances three months after an injury to the head, and two years later violent neuralgia of the right frontal nerve. The visual field was reduced to 1/12 and the right frontal nerve was much enlarged. There was also slight paresis of the internal rectus. After resection of the frontal nerve the neuralgia subsided. He is inclined to attribute the

visual disturbances to traumatic injury of the region of the fourth ventricle and corpora quadrigemina.

90. **Diagnosis of Fractures by Sound Conduction.**—Plesch diagnoses fractures in the bones by percussion and auscultation. The normal conduction of the sound stops at the point of the fracture.

Münchener Med. Wochenschrift, Munich.

- 91 (L. No. 44.) *Experimenteller Beitrag zur Ätiologie der Pankreas und Fettgewebs-Nekrose. O. Hess.
 92 *Lacerations in Vagina and Pelvic Floor as Causes of Genital Prolapse. Schatz.—Ueber die Abreissungen der Scheide und des muskulösen Beckenbodens als Ursachen von Genitalprolaps.
 93 *Treatment of Recent Laceration of Perineum. K. Hegar. (Freiburg).—Ueber die Behandlung des frischen Dammrisses.
 94 *Immunization with the Ovary. K. Strobansky (St. Petersburg).—Beitrag zur Immunisierung mit Eierstock.
 95 Cause of Turbidity in Milky Ascites. J. Joachim.—Ursache der Trübung in milchigen Aszitesflüssigkeiten.
 96 Die Fraktur des Os schaphoideum und ihr Ausgang in Pseudarthrose. E. Pagenstecher.
 97 *Sieve for Feces. F. Schilling (Leipsic).—Ein für den Praktiker geeignetes Stuhlseib.
 98 Zur Kasuistik der Myasthenia gravis pseudoparalytica. J. Hey. (Commenced in No. 43.)
 99 From the Washington Congress of Physicians and Surgeons. C. Beck (New York).—Vom 5 Kongress der amerikanischen Aerzte und Wundärzte in Washington.

91. **Etiology of Pancreas Necrosis.**—Hess reports a series of experiments conducted at Marburg which demonstrated that fat injected into the pancreas through the efferent ducts caused total necrosis of the organ, with hemorrhage, fatty degeneration and rapid death, the symptom complex resembling in every particular, both clinical and in the pathologic anatomy, that of pancreas apoplexy in man. Glycerin and starch had no such effect as the olive oil and oleic acid, and paraffin induced only mechanical lesions. After discussing various theories to explain this rapidly fatal action, he suggests that the oil may possibly induce a saponification, and the symptoms be due to a soap intoxication. Mink's researches have shown that intravenous injection of .1 gm. of soap per kilogram will kill animals with symptoms of collapse, fibrillary contractions, etc.

92. **Lacerations of Vagina and Pelvic Floor Cause of Prolapse.**—Schatz thinks that more attention should be paid by accoucheurs to preservation of the integrity of the vagina and muscular floor of the pelvis. The abdominal bandage favors laceration of the vagina, and the obstetrician is also frequently responsible for it, especially by early application of the forceps and extraction in breech presentation. The primipara should be preserved from breech presentation on this account. The obstetrician is too apt to devote all his attention to preserving the perineum, while this is comparatively unimportant; it has nothing to do with the integrity of the pelvic lumen, which lies on a higher plane. In order to exercise the pelvic floor, Schatz has his parturient patients after the tenth day and women with descensus sit on a chair which has a knob 5 cm. high in the seat. This knob presses the relaxed pelvic floor into place and helps the women to exercise the muscular floor of the pelvis energetically and repeatedly. The tendency of the fetal head to drag the walls of the vagina along with it is counteracted by the contractions of the uterus, which pull up the collum and vaginal walls. This tendency on the part of Nature is sometimes nullified by the "bearing down," the straining of the woman who does not allow the uterus time for its contractions, and actually forces the walls of the vagina farther and farther downward, with laceration as the inevitable result. This frequently occurs in young, healthy women, and the muscular floor above usually tears with the vaginal walls. The levator ani is particularly liable to be torn from its attachment, as it has to stand the greatest strain. Unless it can be restored to its place and fastened there, the loss of its support invites prolapse and descensus, especially after later pregnancies. It is a difficult matter to discover and remedy these lacerations in the pelvic floor and vagina. From his experience in such cases Schatz now prefers prophylactic measures, and when these lacerations are imminent he makes a deep incision on the left of the vulva to preserve the perineum and then carries this

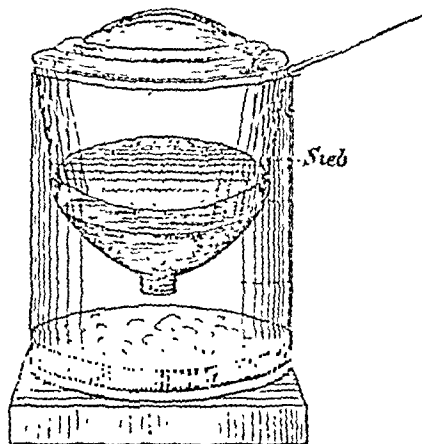
incision further upward until it forms a complete paraproctal incision of the vagina to at least half its height and sometimes still higher. When incised in this way it is impossible for the vagina to tear along the side and be torn from the arcus tendineus, thus preventing laceration of the levator ani, at least from its point of attachment. It is much easier to suture this single paraproctal incision than to take care of the multiple lacerations and detachments liable without it. This paraproctal incision differs from Dührssen's vaginal cesarean section, as it never extends into the upper third of the vagina and involves only the soft parts of the pelvic floor. It is made on one side only and presents a clean and easily sutured wound—far preferable to the conditions liable without it. It is readily sutured with the aid of fixation forceps, which the obstetric nurse can easily manage alone. In conclusion, Schatz remarks that it is absurd to assume that any practitioner is able to handle all obstetric cases properly. Obstetrics is an art when correctly practiced, and prolapse will become less and less frequent when this is recognized and primiparae are delivered in equipped establishments.

93. **Recent Laceration of Perineum.**—Hegar protests against the assumption that it is wise always to suture a laceration in the perineum immediately after delivery. He thinks that the suture should be undertaken at once in case the condition of the wound insures primary healing or at least renders it highly probable, if the laceration be not too extensive, not extending too far in the rectovaginal septum, and the tissues have not been crushed and there is no sugillation. The general condition of the patient must also be good and the resisting powers to be counted on. Already existing infection must be positively excluded, with no evidences of fever or discharge suggesting endometritis or colpitis. Finally, the environment must be such as to ensure all aseptic and antiseptic precautions and a favorable convalescence free from infection later. Under other conditions the suture of the tear should be postponed until after recovery. It is liable to heal spontaneously. In 53 cases in his experience treated expectantly, the lacerations of the first and second degree healed by primary intention in 33.9 per cent., with exact coaptation of the lips of the wound. In 11 cases the lips of the wound healed, but not in perfect position, and in 11 cases there was partial primary healing. In 77.3 per cent. of all the cases the functional results of the spontaneous healing were excellent. Only one of the 53 had any temperature. On the other hand, the statistics at Chrobak's clinic show some temperature in 95 out of 1,036 parturients not examined before the birth. In 45 cases in which suture was not attempted, the fever was slight in 86.6 per cent. and severe in 13.3 per cent. In 50 cases in which the laceration had been sutured the fever was severe in 38 per cent. of the cases—and this in a well-managed clinic. The proportion would certainly have been larger in private practice. Hegar cites other statistics to sustain his plea that immediate suture of the laceration in the debilitated condition of the patient affords a predisposing soil for development of germs in the secretions pent in by the suture. In his clinic parturients after delivery with a laceration have a bandage wound around the legs above the knee and are kept in the strictest dorsal decubitus for eight days. Douches and other manipulations are done with the greatest care during this interval, and entrusted only to exceptionally skilled attendants.

94. **Immunization with Ovarian Extract.**—The research described was undertaken to establish the cytotoxic power of the serum of small animals previously treated with extract of the ovary or corpus luteum. Among the points determined was that the immune serum had a favorable action on the spermatozoa of animals of the species from which the extract had been derived. In ordinary serum the spermatozoa soon lose their motility while in the immune serum they retained it for an exceptionally long time.

97. **Sieve for Feces.**—Schilling's sieve is free from the objections of most articles of the kind he states. The feces placed

in it automatically cleanse themselves and the residuum is free from odor. The apparatus is extremely simple and does not require running water, but can be set aside in a closet to do its work. Fitting into a large glass jar is a second glass vessel with a brass sieve a short distance above the bottom which tapers to a small opening below, closed with a screw cap. (See cut.) After the feces are placed on the sieve, water is poured on until it rises above the feces which thus float on the water until the latter subsides as it escapes



a drop at a time through the cap below. After six to eight hours the residuum left on the sieve can be examined without offending the eye or nose. Schilling has already made some interesting discoveries with the residuum thus conveniently obtained, and refutes the assertions of Voit and Schmidt in regard to the digestive powers of dogs.

Therapie der Gegenwart, Berlin.

Last indexed page 995.

- 100 (No. 9.) Treatment of Renal Lithiasis. G. Klemperer.—Behandlung der Nierensteinkrankheiten.
- 101 Saline Baths. F. Bahrmann and M. Kochmann.—Nimmt das Soolbad unter den Bädern ein Sonderstellung ein?
- 102 Zur Mechano-Therapie der Lungen-Phthase. H. Cybulski.
- 103 Die Anesthesirung der oberen Luftwege bei Tuberculösen. E. Pollatschek.
- 104 Disturbances in Bladder Innervation. A. Homburger (Frankfurt a. M.).—Ueber cerebrale und spinale Störungen der Harnblaseninnervation und die Pflanz der Incontinentia.
- 105 (No. 10.) Salt and Fluids and Kidney Trouble. H. Strauss.—Zur ... und Flüssigkeitszufuhr bei Herz und ...
- 106 Influence of Veronal on Elimination of Nitrogen. C. Trautmann.—Einfluss des Veronal auf die Stickstoffausscheidung beim Menschen.
- 107 *Zur Therapie der Basedow'schen Krankheit. Kirnberger.
- 108 *Ueber Thiosinamin und seine Anwendung. A. Lewandowski.
- 109 Calorisor in Hot Air Treatment. F. Bemy (Kiel).—Die Heissluftbehandlung mit dem Voislacder'schen Calorisor.
- 110 Mineral Mud Treatment of Gonorrheal Joint Affections. Schuppenhauer (Berlin).—Gonorrhoische Gelenkerkrankungen und deren Behandlung mit lokalen Fangobehandlung.
- 111 (No. 11.) Die Stellung der physikalischen Heilmethoden in der heutigen Therapie. O. Vierordt.
- 112 Zur Frage der sogenannten febrilen Albuminurie nebst einigen Bemerkungen über die Bedeutung der Cylinder. H. Lühje (Tübingen.)
- 113 *Neuere therapeutische Versuche beim Erysipel. R. Pollatschek.
- 114 *Treatment of Acute Nephritis with Ice. L. Stembo (Wilna).—Behandlung der akuten Nierenentzündung mit Eis.

107. Treatment of Exophthalmic Goiter.—Kirnberger has found that patients with exophthalmic goiter increased in weight under the administration of 10 gm. a day of sodium sulphanilic acid (sulfanilsaure Natron). He uses it on account of its being an antidote to iodine. The pulse was regulated by this drug, but the goiter and tremor were not always influenced. In one case he alternated it with rotagen. The goiter subsided and the pulse was reduced from 140 to 80. In another case this medication was kept up for two years. The mother of this patient was also a typical case of the disease.

108. Thiosinamin.—Lewandowski proclaims that thiosinamin is harmless and will be found particularly useful as a preliminary to operations in which adhesions are feared. Also in case of cicatricial conditions on the surface of the body or in the interior. It is liable to cure disturbances due to cicatricial contracture and is also effectual in hastening absorption of old opacities on the cornea, in cataract, iritic adhesions, choroiditis disseminata with exudation, and in

deafness due to fibrous masses and cicatricial changes in the inner ear. His experience indicates that it should not be used when there might be danger from the flaring up of a subsiding process, as in recent keratitis. He injects a 15 per cent. alcoholic solution, preferably in the forearm under the skin.

113. Erysipelas.—Pollatschek reviews his experience with 300 cases of erysipelas, 14 fatal. He treated 33 of the patients with red light, 12 with collargol, others with mesotan, etc., but found that his mainstay was the application of icecold compresses wet with Burrow's solution. The results were much better in the 80 cases thus treated than in the others. In case of much pain he supplements it with a 10 per cent. salve of anesthesin, and in extremely severe cases with intravenous injection of collargol.

114. Treatment of Nephritis with Ice.—Stembo has treated 20 patients with acute nephritis by application of ice bags to both kidneys, held in place with a bandage. After two or three hours he removes the ice for an hour and then replaces it, keeping up this treatment until the albuminuria has entirely vanished. This ice treatment is especially useful in sudden, acute cases of nephritis and in the acute exacerbations of a chronic affection.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed page 145.

- 115 (XLIX, No. 2.) *Two Unusual Cases. E. Opitz (Berlin).—Zwei Bemerkungen zur Theorie ...
- 116 *Ueber Endothelioma cervicis ...
- 117 Statistics of Twin Births. P. Seegert (Berlin).—Zur Zwillingsstatistik und -Diagnose.
- 118 *Synctiolyse und Hemolyse. R. Scholten and J. Velt.
- 119 *Zur Aetiologie der Ovarial-Adenome. M. Walthard (Berne).
- 120 (No. 3.) *Weitere Erfahrungen über Myom-Operationen an der Hand von 140 in den letzten 12 Jahren operierten Fällen. A. Czempin (Berlin).
- 121 *Das Syncytioma malignum vaginale p. p. matur. ohne Geschwulstbildung im Uterus und seine Aetiologie. G. Schmanch (Chicago).
- 122 Ueber Hemato-Salpinx bei Gynastresien. G. Rauscher (Leipzig).
- 123 Der erste Fall von Myoperithelioma uteri malignum. S. Gottschalk (Berlin).—"First case."
- 124 Eine unbekannte Art von Adeno-Myom des Uterus mit einer kritischen Besprechung der Urnieren-Hypothese v. Recklinghausens. R. Meyer (Berlin).
- 125 Ueber Ovarial-Gravidität. Micholitsch (Vienna).
- 126 Beitrag zur Streptokokken-Infektion im Puerperio. A. Mehlender (Marburg).
- 128 (L, No. 1.) Zum Vergleich der vaginalen und abdominalen Operationsmethode bei Carcinoma uteri. Olshausen.
- 129 *Influence of Lactation on Menstruation and Conception. W. Weinberg.—Der Einfluss des Stillens auf Menstruation und ...
- 130 Zu ... Fehling.
- 131 Ueber die Aetiologie der Eklampsie. Weichardt.
- 132 *Inherited Tendency to Multiple Births. Rosenfeld.—Zur Frage der vererblichen Anlage zu Mehrlingsgeburten.
- 133 *Angiom der Plazenta. Kraus.
- 134 *Repeated Childbirths in Same Woman with Contracted Pelvis. Henkel.—Ueber mehrfache Geburten derselben Frau mit engem Becken.
- 135 *Ueber solitary Hematocelen. Alterthum.
- 136 *Congenital Transverse Closure of Vagina. S. M. Brickner (New York).—Unvollständiger angeb. Querverschluss der Scheide, nebst einer Theorie zur Erklärung seines Ursprungs.

115. Two Unusual Uterine Growths.—Opitz describes a mixed tumor, a combination of adeno-carcinoma and sarcoma, removed from a woman aged 57. The mucosa of the corpus was the starting point. All the cases on record similar to this were in women at the climacteric age. The growth was comparatively benign and the sarcoma was polypous, consisting partly of round and partly of spindle cells. He suggests the possibility that the same cause may incite the epithelium to carcinomatous proliferation and the connective tissue to sarcomatous. If this prove to be true, then carcinoma and sarcoma may be considered identical from the etiologic standpoint. In the second case described, a mucous polyp removed from the vagina proved to be carcinomatous. The pedicle of the polyp sprang from the tubal corner and an epithelioma had developed on it. He can not find in the literature another case similar to this.

116. Endothelioma Cervicis.—Kircheggessner adds one more to the 12 cases of endothelioma uteri on record, bringing the number of those located in the cervix up to 9. The patient

was a iii-para, 34 years old. The tumor was located in the anterior portion of the cervix and the patient succumbed to peritonitis after total extirpation. Out of the total of 9 cases only 2 recovered after vaginal hysterectomy. The growth in the case described may be entitled an endothelioma lymphaticum cervicis uteri.

118. Syncytiolysis and Hemolysis.—The side-chain theory and the knowledge that the elements of the fetus may be deported into the maternal organism are illuminating the questions of the physiology and pathology of pregnancy. Scholten discusses them at length, laying particular stress on the significant clinical observation that in eclampsia and "pregnancy kidney" hemoglobinuria is not an infrequent occurrence. His therapeutic application of this new knowledge is proving very promising, he states, and he will publish the results soon.

119. Etiology of Ovarian Adenomata.—Walshard's extensive article is an important contribution to the anatomy and histology of the ovaries. It is based on systematic examination of 80 ovaries from women and girls of various ages.

120. Myoma Operations.—In 58 out of the total 150 cases reviewed, the myoma was removed by the vagina and in 82 by the abdominal route. The total mortality was 12 per cent. There were no fatalities in 15 conservative abdominal operations. Czempin reviews the technic followed in the different groups of cases.

121. Syncytioma Malignum.—Schmauch does not regard a pregnancy as indispensable to the development of a tumor of this character; it may originate from aberrant fetal cells. He does not consider the syncytium as a specific variety of cell, but believes that it is merely one phase in the cell life of the Langhans epithelium cell. The preliminary to the syncytioma is the existence of syncytial "wander cells" in the tissues. He describes a case of hemorrhage three weeks after delivery of a living child, the woman a robust iv-para. She died in the course of seven weeks notwithstanding operative measures. The necropsy revealed numerous syncytioma metastases throughout the vagina, kidneys, lungs, spleen and brain, but no primary tumor could be discovered. He consequently argues that the syncytioma belongs in the teratoma class. During the pregnancy the syncytioma checks or prevents the normal formation of syncytiolysis according to the side-chain theory. This suggests the possibility that such conditions might be combated by immunization measures if surgical intervention offers no prospects of success.

129. Influence of Lactation on Conception.—Weinberg states that conception occurred during the first six months after childbirth in only 12 per 1,000 of 513 non-menstruating women who were nursing their children. The proportion rose to 595 per 1,000 in 615 women who were not nursing children. The influence of lactation on conception is thus confirmed.

132. Hereditary Tendency to Multiple Births.—Rosenfeld's statistics are based on the family history of 216 families among the German nobility. An inherited *Anlage* to multiple births is unmistakably shown in a number of them, and also the fact that this tendency is an evidence of greater fruitfulness. An accumulation of twin births among those most closely related is the rule.

133. Ang-oma of Placenta.—Krauss describes the varieties of this growth as he has observed them in 6 cases.

134. Repeated Childbirths in Women with Contracted Pelves.—The prognosis of the childbirth may be established by what occurred during the last delivery, as each deformed pelvis has its own particular mechanism of childbirth. Sixty-six women with conj. diag. of 7.5 to 11 cm. had children delivered at the Berlin clinic three or more times, a total of 286 births. Henkel found it indispensable to determine the position of the skull in respect to the pelvis for each individual case. A repetition of cesarean section may be advisable and offers a good prognosis.

135. Solitary Hematocele.—Alterthum reports a case and reviews the literature. The capsule of the hematocele after

a tubal abortion was formed at first of fibrin, but as adhesions developed the capsule became at last a complete envelope of connective tissue.

136. Transverse Septum in Vagina.—Brickner does not think that this condition in unmarried women calls for treatment, but the septum should be excised as soon as a pregnancy is suspected. Intrapartum an X-incision is sufficient. The prognosis is bad for the child unless the septum is recognized and removed in time. The mother is likewise liable to lacerations or fatal hemorrhage on the same account. He reports 4 cases with 9 cuts.

Russkii Vrach, St. Petersburg.

Last indexed page 1445.

- 137 (No. 19.) *Influence of Poisons on the Gaseous Interchanges in Animals. N. P. Kravkoff.—O vliyani yadov na gazoobmen u zheivotnykh.
- 138 *Soluble Glass for Injecting Anatomic Specimens. S. N. Yashchinski.—Zhidnoe steklo kak vpryskiyaemaya massa dlya macroscopicheskikh preparatov sosudistoi systemy.
- 139 *O t. naz. chirurgicheskoi skarlatinye. V. P. Gerasimovitch.
- 140 (No. 20.) Veins of Pancreas. V. N. Tonkoff.—O venakh podzhelodochnoi zhelezy.
- 141 *Rupture of Laparotomy Wound. V. N. Orloff.—K voprosu o razryve bryushnogo rubtza posle tchrevosyetchenil.
- 142 Rhythm. S. I. Kostin.—K voprosu o lykhanii.
- 143 (No. 21.) *Cryoscopy of Urine in Children. Cryoscopy in Nephritis and with Meat or Milk Diet. E. Y. Hines.—Krioloskopiya mochi u dyetel, etc.
- 144 Value of Methyl Atropin Bromid in Ophthalmology. V. P. Vitzinski.—O dyestvii bromistago metyl-atropina na glaz.
- 145 *Patologicheskaya anatomiya neuropathicheskago spondylosa. G. Y. Troshin. (Commenced in No. 18.)
- 146 Paratyphus. V. I. Byelyaev. (Commenced in No. 20.)
- 147 *Changes in Kidneys After Decapsulation. B. F. Kontchomolovski.—Nyekotorya danniya ob izmenenii potchek pri lkh decapsulatzii.
- 148 K parazitologii i klinike smyeshanbykh form bolotnoi lkh-boradki (mixed malaria). S. A. Mark.
- 149 K voprosu o lyetchenii bokovykh iskrivlenii nizhnikh konetch-nostel (genua valgus i vara) etapnymi pyrazkami Prof. J. Wolf. A. N. Semenov. (Commenced in No. 20.)

137. Influence of Poisons on Gaseous Interchanges.—A number of tests on animals with strychnin, digitalin, etc., are described in which particular attention was paid to study of the gaseous interchanges. The results show the importance of regarding this effect of poisons in estimating their action on the organism. Also that the antagonism between certain poisons may be due to the opposite effect on the intake and consumption of oxygen, etc.

138. Soluble Glass for Injecting Anatomic Specimens.—Of all the materials used for injecting blood vessels, a saturated solution of potassium silicate has proved the most perfect for the purpose in this writer's experience. He adds a little prepared chalk previously tinted red or blue. This helps to solidify the mass which he prepares fresh, keeping the ingredients separate until needed.

139. Surgical Scarlatina.—Forty-four patients out of 2,000 operated on at the Children's Hospital, St. Petersburg, between 1897 and 1902, developed afterward the so-called surgical scarlatina. The infection coincides with the trauma of the surgical intervention. This form of scarlatina is marked by the short period of incubation, the initial fever, the rash and desquamation around the wound, complications on the part of the wound and, finally, by the absence of the specific scarlet fever sore throat. Scarlet fever is classed by the writer as a wound infection liable to complicate any operation or wound the same as erysipelas, tetanus, etc. He believes that many cases of the so-called erythem following the use of diphtheria antitoxin should probably be regarded as surgical scarlatina. The article concludes with the bibliography on the subject, after presenting in an elaborate table the details of 36 of the cases of surgical scarlatina on which the work is based. The period of incubation was less than twenty-four hours in 8 cases; less than three days in 13; less than five days in 5, and from twelve to sixty-six days in the remainder. The course of the affection is mild, and none of the three deaths in the series could possibly be attributed to it.

141. Breaking Open of Laparotomy Wounds.—The stress under which the wound broke open in the 26 cases reviewed was due to coughing, vomiting, excessive exertion, trauma-

tism, etc., nearly all mechanical. The list includes 2 personally observed. Orloff concludes that such a wound should be protected better than is the custom until it has solidly healed, meteorism should be prevented, and all possible sources of mechanical injury avoided.

143. Cryoscopy of Urine in Children.—Hindes reports his findings in a number of examinations of the urine of children both in health and in nephritis, and on a meat or milk diet. His conclusions are that this method of examination is too variable in its results when applied to the urine of children, at least, and that its findings can not be relied on with any accuracy.

145. Neuropathic Spondylitis.—This comprehensive communication from Bechtereff's clinic reports in detail a number of cases, concluding with a review of the literature on the subject of chronic ankylosing inflammation of the spine. Troshin distinguishes the Bechtereff type as a neuropathic curvature of the spine, while the Strümpell-Marie type is more in the nature of arthritis deformans. In the latter the changes in the spinal cord are similar to what is observed in arthritis deformans and it should be regarded consequently as a trophoneurosis. Generally speaking, all the various forms of spondylitis may be considered functional affections free from inflammatory processes. The special features of each type vary with the fundamental cause of the spondylitis.

147. Experimental Study of Decapsulation of the Kidneys.—The researches described failed to show any benefit from decapsulation in experimental kidney affections. There was no reformation of vessels, and merely proliferation of connective tissue and atrophy of the exposed parts.

Riforma Medica, Palermo.

- 150 (XIX, No. 44.) L'albargina nel trattamento delle vulvovaginiti blennoragiche delle bambine (in children). C. V. Lutati.
151 Il varicocele e sua cura chirurgica moderna, con casi clinici. S. A. Virdia. (Concluded.)

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

Last indexed XL, p 1577.

- 152 (XXXII, No. 8.) *Ueber Albuminurie. M. Cloetta (Zurich).
153 (No. 9.) Unfavorable Criticism of Glaser's Chologen Treatment of Cholelithiasis. L. Courvoisier.—Behandlung der Cholelithiasis. (Glaser's reply in No. 12.)
154 New Diaphragm for Roentgen Technic. O. Pasche (Berne).—Neues Blenden-Verfahren in der R.-Technic.

152. Albuminuria.—Cloetta has been studying the three forms in which albumin may appear in the urine. The amount of serum albumin and serum globulin is far superior to that of the nucleo-albumin form and hence the latter may usually be neglected where extreme accuracy is not necessary. He designates the figure obtained by dividing the serum albumin by the globulin as the albumin quotient, and states that the acuter the nephritis, the smaller this quotient and the larger the proportion of nucleo-albumin. In chronic nephritis with induration, serum albumin predominates. He believes that the condition of the renal parenchyma determines the albumin quotient in the urine. The acuter the nephritis, the severer the lesions in the parenchyma, rendering it more permeable for the substances in the blood. The quotient in this case is nearly identical with that of the blood serum. The tougher the parenchyma becomes by indurative processes, the less permeable and the more effectually it retains the globulin. The nucleo-albumin does not seem to be derived from the blood, and is probably due to destruction of kidney cells. Whenever a chronic process undergoes an exacerbation there is renewed destruction of cells and hence increased output of the nucleo-albumin which thus acquires prognostic significance. Comparison of the albumin output with the findings of the freezing-point test shows that there is no direct connection between them. The absolute amount of albumin eliminated is not proportional to the functional disturbance in the kidney evidenced by the variations in the freezing-point. On the other hand, there seems to be a direct proportion between the amount of substances precipitated by acetic acid and the functional disturbances. In his experiments on rabbits he observed that the elimination of the albumin entirely ceased during the course of an acute

nephritis, while the molecular concentration did not show any signs of decrease, but rather increased, and this combination was always followed by speedy death. In such cases we must assume that notwithstanding the tendency to anatomic healing, the kidney is not capable of rallying from its functional disturbance and the individual succumbs to the effects of the nephrogenic intoxication. This assumption that the anatomic lesions and the functional disturbances are not necessarily proportional, was confirmed by the results of administration of various drugs which have a toxic action on the kidneys. Cantharidin seemed to have less influence on the vital activity of the kidney cells than aloin, although the anatomic lesions were apparently identical. It is possible that in man cases of nephritis which seem clinically and in their pathologic anatomy to be identical may yet differ as widely as in the aloin and cantharidin experimental tests. This difference may be due, as in the latter, to the varying intensity of the functional disturbances, which in turn are dependent on the nature of the toxin causing the trouble.

New Patents.

Patents of Interest to physicians, Nov. 3 to 10:

- 743372-3. Magnetic medical apparatus and electromagnetic therapeutic apparatus. Emile Bachelet, Tacoma, Wash.
743147. Massage instrument. Herbert A. Church, Syracuse, N. Y.
742858. Means for fumigating. Lewis W. Cock, San Marcos Texas.
742853. Artificial leg. Chancy A. Frees, New York.
742986. Nebulizer. George W. Hopkins, Cleveland, Ohio.
743409. Apparatus for administering anesthetics. George H Hurd, Cleveland, Ohio.
743018. Inhaler. John N. McKim, Montreal, Canada.
743306. Therapeutic appliance. George M. D. Merwin, St. Louis.
743394. Pocket cuspidor. Wm. C. Mitchell, Denver.
743310. Neck and chest protector. Stillman A. Moulton, Campbell, Cal.
743187. Hernial truss. Solomon H. Phillips, Pana, Ill.
743340. Disinfecting apparatus. Percy Simundt, Charlotten burg, near Berlin, Germany.
743127. Disinfecting apparatus. Franklyn M. Wise, New York.
743798. Siphon Filler. Henry A. Allwardt, Detroit.
743826. Expectorating pouch. Edward L. Calahan, Clifton, N. J.
743486. Surgical pad. George H. Gilmore, Murray, Neb.
743718. X-ray tube. John O. Heinze, Jr., Lowell, Mass.
743877. Catamenial appliance. Hubert A. and A. L. Ische Milwaukee, Wis.
743743. Hypodermic syringe. John H. McCulloch, Newville, Pa.
743741. Insulator. Anna Mueller, Knoxville, Pa.
743562. Device for cooling or warming the human body. Bernhard Rober, Dresden, Germany.
743662. Syringe. Charles S. Rukstuhl, St. Louis.
743663. Surgical device for setting fractured legs. Johann Scheidl, Filiale Baden, near Vienna, Austria-Hungary.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE. By Prof. Dr. O. Haab of Zurich. Second Edition, Thoroughly Revised. Edited with Additions, by G. E. deSchweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. With 98 Colored Lithographic Illustrations on 48 Plates. Cloth. Pp. 232. Price, \$3.00 net. Philadelphia, New York, London: W. B. Saunders & Co 1903.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University. Second Edition, Revised and Enlarged. Illustrated with 507 Engravings. Cloth. Pp. 848. Price, \$5.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

QUIZ COMPENDS. COMPEND OF GYNECOLOGY. By William H. Wells, M.D., Chief of the Gynecological Staff of the Mount Sinai Hospital, Philadelphia. Third Edition, Revised and Enlarged, with 145 Illustrations. Cloth. Pp. 293. Price, 80 cents net. Philadelphia: P. Blakiston's Son & Co. 1903.

A MANUAL OF BACTERIOLOGY. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. With 99 Illustrations. Third Edition, Revised and Enlarged. Cloth. Pp. 351. Price, \$1.75 net. Philadelphia: P. Blakiston's Son & Co. 1903.

OBSTETRICS. A Text book for the Use of Students and Practitioners. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University. With 8 Colored Plates and 630 Illustrations in the Text. Cloth. Pp. 845. Price, \$6.00. New York and London: D. Appleton & Co. 1903.

THE NEW HAVEN COUNTY ASSOCIATION. Officers, By-laws, History of Origin, List of Members with Biographical Notes and Papers Read at the Semi-annual Meeting, Oct. 17, 1901. Paper. Pp. 135. New Haven, Conn.: Published by the Executive Committee. 1902.

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No. 25.

Original Articles.

AN EPIDEMIC OF TYPHOID FEVER FROM SEWAGE POLLUTION OF CITY WATER SUPPLY.

THOMAS F. HARRINGTON, M.D.

LOWELL, MASS.

Typhoid fever is such a widespread and universal disease that any observation tending to show its origin or mode of conveyance has more than ordinary interest. Drinking water has long been suspected as one of the media by which typhoid bacilli enter the body, and there set up their characteristic sequelæ. This suspicion has been more or less strengthened from time to time by epidemics in which there was considerable probability that an infected water supply was the means by which cases of typhoid fever multiplied. In the epidemic of typhoid fever, which forms the basis of this paper, a chain of evidence of cause and effect is so complete that it is worthy of presentation. In order that the whole situation may be as clear as possible it will be necessary to relate what might be called a history of the water supply.

Lowell, Mass., is a manufacturing city of about 100,000 population, situated on the Merrimac River between Manchester, N. H., and Lawrence, Mass. Both of these cities are mentioned, as reference is to be made to the typhoid fever cases in each. Prior to 1893 all the water furnished, both for drinking purposes as well as that used for domestic and manufacturing purposes, was taken from the Merrimac River, the result being that Lowell experienced an epidemic of typhoid fever whenever Manchester increased the river pollution by sewage from an unusual number of typhoid cases. This is best shown by the appended table:

TABLE I.

	Cases.	Deaths.
1890.....	459	123
1891.....	293	77
1892.....	373	75
1893.....	160	53
1894.....	282	50
1895.....	172	33
1896.....	178	36
1897.....	105	18
1898.....	119	24
1899.....	57	17
1900.....	85	17
1901.....	70	18
1902.....	83	16

The above table represents a reduction in the death rate from 1.58 per 1,000 inhabitants to .11 in thirteen years. Lowell in its turn transmitted the disease to Lawrence until the latter saw the folly of continuing the use of polluted river water and substituted filtered water for drinking purposes. In 1893 Lowell introduced a system of driven wells for the supply of city water.

This system was further extended in 1894-95 and in 1896, when all connections with Merrimac River water were severed, and the total daily consumption taken from the driven wells. The manufacturing companies did not partake of this new water supply, but continued to maintain an independent system, consisting of Merrimac River water pumped into a private reservoir to be used for fire purposes and a second supply pumped directly from the canals into the supply pipes in the mills. This latter is also Merrimac River water and is used for manufacturing and sanitary purposes. Some of the mills have made connections with the city system, but the large majority use only Merrimac River water, and as this is furnished at the sinks there is more or less use of it by the operatives for drinking purposes. Each sink has a large placard marked "poison" over the faucets, and the operatives are forbidden to use the water for drinking. Although many of the mills send boys with pails to wells in the neighborhood for drinking water, nevertheless cases of typhoid fever are constantly occurring among operatives in which the use of canal water is the most likely mode of infection. There are approximately 20,000 operatives in the mills. The corporation reservoir supplying the mills is situated thirty feet higher than the city reservoir supplying the same districts with well water for all purposes. These two systems are separated at a point of intersection by a check valve, and this was thought to be sufficient protection against the possibility of any intermingling of the two. The check valve is composed of four "flappers" which close automatically and remain closed on account of the greater pressure in the corporation system than that in the city system. In the event of fire, demanding any unusual supply of water from the corporation system, the valve opens as soon as this demand so lowers the pressure that the pressure in the city supply exceeds that in the other; in this way the city supply would reinforce the corporation supply. When the latter recovered its loss its increased pressure closes the valve again, and two systems remain separated as before.

PRESENT EPIDEMIC.

On the evening of Saturday, July 18, 1903, a large fire occurred in the Merrimac manufacturing mills, which drew heavily on the water supply from the corporation reservoir, sufficient to allow the check valve to open in the manner described above. The fire lasted from 8 p. m. Saturday to 2 a. m. Sunday, after which time steps were immediately taken to replenish the low supply of the reservoir. To do this water is usually pumped from one of the wheel pits at the Lawrence manufacturing mills, or from one of the other canals. The canals had been drawn off Saturday afternoon, as

is the custom at certain times of the year, and the river near the opening leading to the wheel pit was very low on this particular day. About 550 feet from this entrance to the wheel pit is an outlet of one of the city's sewers emptying into the river; consequently the sewage must have been sucked into the pit, and from there pumped to fill the reservoir. This is well shown by the accompanying diagram:

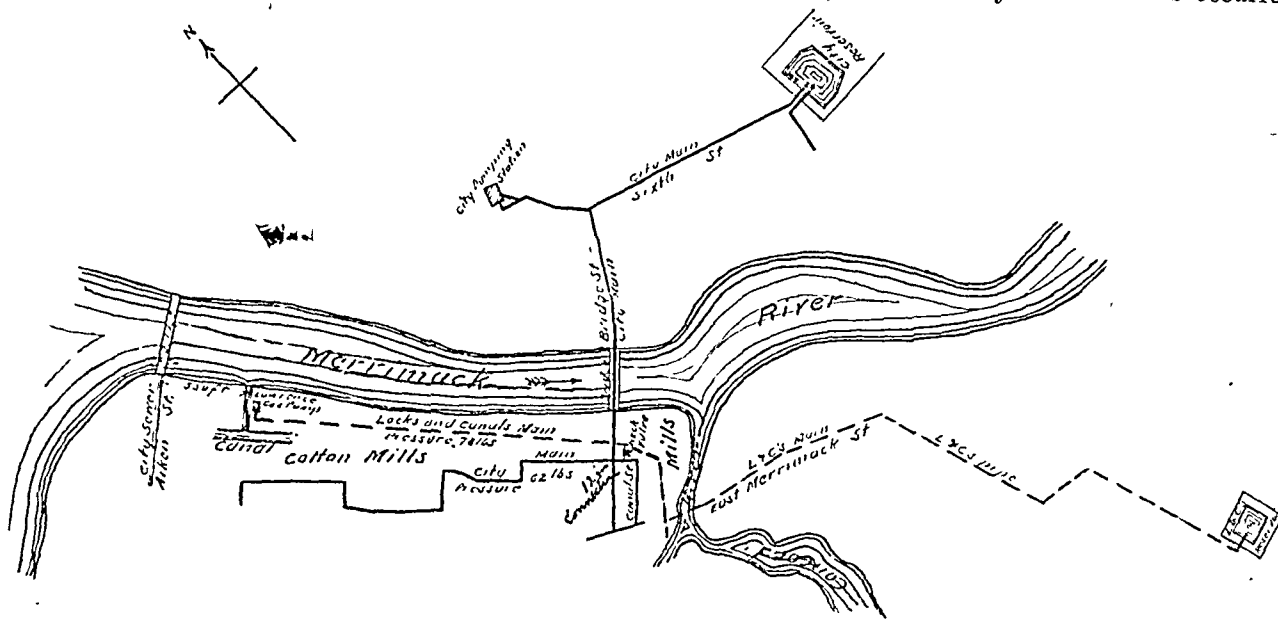


Fig. 1.—Sketch showing location of open check valve.

Seven hours later (9 a. m.) it was discovered that little or no headway was being made in refilling the reservoir. This led to an investigation which revealed the fact that the check valve described above, separating the city supply and the corporation supply, did not close when the increased pressure was applied; thus the sewage contaminated water was being driven directly into the city mains, there mixing with the driven well supply. From the point at which intermingling took

low service separated from the corporation system by the check valve. No suspicion could be attached to either the milk or ice supply.

There had been four cases of typhoid reported to the health department during July. About August 1 cases of typhoid fever began to be reported with alarming frequency. One hundred and thirty-six cases were reported during August, and 38 during September. These cases were reported weekly as follows:

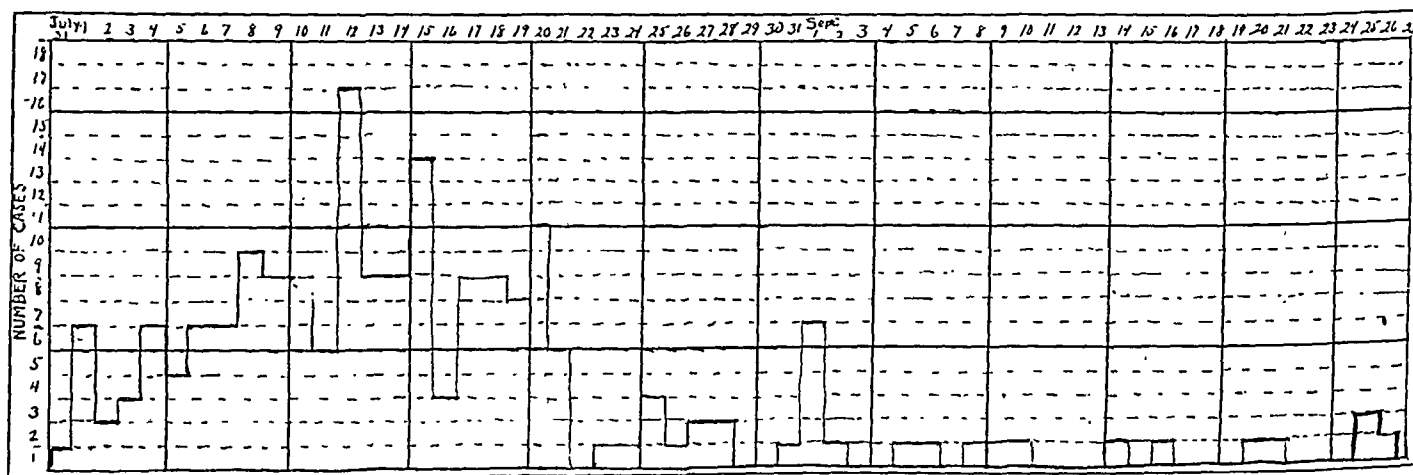


Chart showing the dates on which the cases went to bed. (The fire occurred July 18. The first cases appeared about July 31.)

place the water naturally was driven in those directions in which there was the least resistance, i. e., where water was being used, and also in a direction most direct from the break in the current, consequently any ill effects from the contamination of the water would show itself in the localities thus supplied. On account of the time of the day as well as the day of the week (Sunday) the consumption of city water was at its lowest point, thus giving the polluted water a much wider range of distribution than would otherwise have been possible. In two days after the above-described occurrence the number of cases of enteritis and gastro-en-

TABLE II.

	Cases.	Deaths.
August 1 to 8.....	0	0
August 8 to 15.....	13	0
August 15 to 22.....	75	1
August 22 to 29.....	41	1
August 29 to September 5.....	20	2
September 5 to 12.....	7	2
September 12 to 19.....	8	0
September 19 to 26.....	4	1
September 26 to October 3.....	4	1

Many of the cases reported as typhoid in August and September came from families or houses in which there had been cases of enteritis during the period July 19 to August 1, some members of the family recovering fully from the acute enteritis, while others went on to a

well-developed typhoid. The accompanying interesting chart, prepared by Dr. Frank L. Morse of the Massachusetts State Board of Health, shows the dates on which the several cases of typhoid fever became ill enough to go to bed, thus differing from Table II, which shows the dates on which the cases were reported to the health department.

No bacteriologic examination of the city's drinking water was made between the dates July 19 and 29. On the later date the city's supply pipes were thoroughly flushed; this reduced the possibility of finding traces of the supposed contamination to a minimum. It was estimated by the water department that about 500,000 gallons of sewage or Merrimac River water found its way into the city's water service between the hours of 3 a. m. and 9 a. m. July 19, before the defective valve was discovered. This amount is equivalent to about one-twelfth the average daily consumption of city water. There is no way of estimating how long before 3 a. m. the two systems had been in communication. On July 29 (ten days after the contamination) the State Board of Health made a bacteriologic examination of the water. The following report, which I am permitted to publish through the kindness of the water department, explains the findings of that examination:

OFFICE OF THE STATE BOARD OF HEALTH.

Boston, Aug. 26, 1903.

To the Lowell Water Board, Lowell Mass.

Gentlemen:—In response to your request of July 28 for bacterial examination of the water supply of the city of Lowell, the board caused samples to be collected from various parts of the city on July 29 and again on July 31, and sends you herewith the results.

The average number of bacteria found in different parts of the city on July 29 was 17, which is nearly the same as the number found at the force-main at the boulevard wells, indicating no added pollution at this time. This number is smaller than the average found in other driven well supplies throughout the state.

On examining these bacteria to learn if *Bacillus coli*, which is regarded as indicative of pollution by sewage, was present, none was found in any of the samples when the usual amount of one cubic centimeter was examined, but on examining one hundred times this amount this species was indicated in two samples, viz.: one taken from a store in Pawtucketville and one taken from Walker street. In both these cases the whole number of bacteria was unusually small, averaging but ten, indicating a small degree of pollution.

Another series of samples taken on July 31 gave somewhat higher number of bacteria present, but no greater increase than might be expected from the temporary effect of the flushing out of the city mains on July 29 after the collection of the first series. By this flushing and the subsequent filling the sediment remaining in the mains was probably stirred up, and the bacteria in this sediment and on the sides of the pipes were detached.

The number of bacteria in all of these samples averaged as low as in other driven well supplies of the state, but the presence of *Bacillus coli*, even in small numbers, was an unusual occurrence. With the first four samples of the second series all of the bacteria in 1,000 c.c. were also examined with no indication of *Bacillus coli*.

(Signed)

SAMUEL W. ABBOTT, Secretary.

The water supply from this source had been regularly examined and had never shown the presence of the *Bacillus coli*.

TYPE OF THE EPIDEMIC.

As a whole, the disease was of a mild character, the death rate being 4.4 per cent. The city bacteriologist,

in a personal letter to the writer, says: "The unusual increase in the number of cases of typhoid fever was noticed about August 1. Counting from that date to the end of September, 90 specimens of blood were received here. Of these 58 were positive, 25 were negative, 7 unsatisfactory for various reasons. In some of these the examination was repeated twice or three times before getting a positive result." Cases at the hospitals (about 50) were verified there, consequently do not figure in the above report. From a study of about seventy-five cases of the epidemic, seen at the hospitals and in private practice, the following characteristics prevailed: Onset sudden and often accompanied by a chill; temperature high at the start (102 to 104) and remaining high well into the third week; pulse slow and not in proportion to the temperature, being more often under 100 than over; diarrhea present in 55 per cent. of these cases; rose spots present in 80 per cent., and diazo-reaction positive in 90 per cent. of all cases, giving a positive Widal test; nose bleed absent in 90 per cent. of all the cases; the average duration of the fever was twenty-seven days, with a slow convalescence. Among the complications occurring the following were the most marked: Phlebitis in 8 cases, bronchitis in 6 cases, otitis in 4 cases, arthritis in 4 cases, neuritis in 2 cases, acute mania in 1 case, edema of the lungs 1 case, endocarditis 1 case (death). There were 8 cases of intestinal hemorrhage, 1 with a second hemorrhage. None of these died.

There were several cases in which the clinical picture of typhoid fever was not substantiated by a positive Widal test. These cases did not have rose spots nor an enlarged spleen. The complications mentioned above were as frequent in this class of cases as in the genuine typhoid. There were no means at hand to prove whether these belonged to the paratyphoid group, although this clinical diagnosis seemed well established.

I desire to acknowledge my indebtedness to the Massachusetts State Board of Health and to the Lowell water and health departments for their kindness in furnishing me with the results of their respective investigations.

THE UNITED STATES PHARMACOPEIA OF 1900.*

CARL S. N. HALLBERG, Ph.G.

Member of the Committee of Revision.

CHICAGO.

The revision of the Pharmacopeia begun by the committee elected at the decennial convention in Washington, in 1900, is progressing as rapidly as is warranted by the importance and magnitude of the work.

The committee lost its chairman in 1901, Dr. Charles Rice, pharmacist to the Department of Public Charities and Corrections of New York, who had filled that position with especial credit since 1880, and suffered further loss in the death of a life-long worker, Dr. Edward R. Squibb of Brooklyn. The death of the chairman at a critical point of the work caused some delay until the vacancy was filled by Prof. Joseph P. Remington of Philadelphia. Partly due to this fact, but more especially owing to the many important questions, never before confronting a committee of revision, requiring solu-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

tion, the work of revision has been more than usually delayed so that the book will in all probability not appear until in 1904. The official life of the U. S. Pharmacopeia will, therefore, not be synchronous with its decennial designation (1900-1910), which, however, is not of any especial significance.

THE SUBCOMMITTEES.

As an indication of the scope and character of the work of revision the enumeration of the following subcommittees and the subject allotted to each may be of interest:

1. Therapeutics.
2. Posology.
3. Botany and pharmacognosy.
4. General and inorganic chemistry.
5. Organic chemistry; also fixed oils and fats.
6. Proximate assays.
7. Volatile oils and allied substances.
8. Extracts, tinctures, etc.
9. Aromatic waters and spirits.
10. Cerates and allied compounds.
11. Syrups and elixirs.
12. Miscellaneous galenicals.
13. Weights and measures.
14. Scope and statistics.
15. Nomenclature.

LIMITATION OF PURITY.

Among the most important subjects for consideration, and one which heretofore has received but little attention, was the limitation of purity of medicinal chemicals. To the medical mind, the propriety of this question may well appear doubtful. Why should there be any limitation? Only the purest is sufficient for medicinal uses, or for the purposes of the physician. The proposition is, however, not so simple, since there are certain requirements of a practical character which must be taken into consideration. The U. S. Pharmacopeia (1890), now official, requires for a number of largely used chemicals a greater degree of purity than is obtainable by ordinary chemical processes, a standard—as is claimed by reputable manufacturers—to be obtained only by such expensive processes as to necessarily increase the cost of the product, and as to be in some instances almost prohibitive.

It should be clearly understood, however, that these impurities comprise mostly the presence of very small quantities, sometimes 1 per cent. or less, of sulphates and chlorids in bromids, iodids, phosphates and similar salts, the contention on the part of manufacturers being that the removal of such traces of these foreign salts would be exceedingly difficult, and since their presence could have no possible therapeutic significance, their absolute removal would be a useless expenditure.

Some instances were cited in support of the contention that the presence of even slight traces of foreign salts, innocuous of themselves, might under certain conditions produce entirely unexpected results; thus, for example, when potassium bromid is prescribed with barium chlorid in watery solution, there will be a precipitate of the insoluble barium sulphate in the presence of the slightest trace of sulphate in the potassium bromid. Such instances are, however, exceedingly rare and do not impair the position that mere traces of such impurities in these salts should not be excluded by the U. S. Pharmacopeia.

Another reason for not setting the standard too high is that it is impracticable to have two standards official, and since the pure food and drug laws in some states refer to the U. S. Pharmacopeia as the standard, druggists and dealers would be liable to prosecution for sell-

ing chemicals for commercial and technical purposes where so high purity is not required, which deviate from the official standard of purity. Such prosecution, mostly ill advised, has been frequent in Ohio, and has been carried on to such an extent in the United Kingdom as to make such laws exceedingly unpopular, and alienating the support of a large and otherwise law-abiding element.

In quite a different category is the degree of purity as related to freedom from poisonous compounds, frequently contaminating medicinal chemicals. Compounds of poisonous elements, such as arsenic, copper, lead, tin, derived from the crude products in the process of manufacture, can not be too rigidly excluded. That no convenience of manufacturers or additional cost, no matter how great, will have any influence on the standard of purity required by the U. S. Pharmacopeia in these particulars is a foregone conclusion.

ISOLATED PRINCIPLES.

The question of substitution of isolated principles for natural products has come to the front largely during the present decade. Many of the volatile oils are mixtures of certain principles, such as the oils of eucalyptus, caryophyllus, cinnamon, gaultheria, betula and sassafras. While the pharmacology on these articles is meager, it is assumed that the principal principles represent the therapeutic virtues of the respective oils, and it is contended that, since these vary considerable in the amount of these principles contained, greater accuracy and uniformity would be secured by the substitution of these principles for the natural oils.

Among the principles of this and similar classes likely to be admitted to the U. S. Pharmacopeia are: Anethol, eugenol, guaiacol and guaiacol carbonate and saffrol. Eucalyptol and methyl salicylate are now official.

SYNTHETICS.

The admission of synthetic products controlled by patent or proprietary rights has also received much attention. The ethical medical position is unequivocally opposed to the recognition of any substance whose composition is secret, or the manufacture of which is in any manner not free; and yet medical men, even the very highest authorities, prescribe them and exploit them in the journals. While the Pharmacopeia is supposed to have ignored them, such is not the case. The first synthetic medicinal chemical made by a patented process, salicylic acid, was admitted to the U. S. Pharmacopeia in 1880. In the present U. S. Pharmacopeia (1890) they are official of this class in addition to salol and lanolin, although under a name different from the trade name. On this point the instructions of the decennial convention of 1900 to the committee of revision were as follows:

The committee of revision is authorized to admit into the Pharmacopeia any product of nature of known origin; also any synthesized product of definite composition which is in common use by the medical profession, the identity, purity or strength of which can be determined. No compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary rights.

The committee, desiring to adhere to the spirit, if not strictly to the letter, of the instructions of the convention, after considerable deliberation decided "to admit those substances for which there is, or may be, a product or process patent which expires during this decade (i. e., 1900-10), carrying with it the expiration of the trade-marked name, as distinguished from a symbol or device."

According to this, none that are patented will be admitted if their trade-mark does not expire with their patent, and none that are trade-marked without being patented. Should legal advice conclude that trade-marked names expire with patent, then only such that are patented will be admitted whose patents expire before 1910. Among those proposed for admission under this decision are chloralamid, ethyl carbonate, hexamethylene-tetramin, iodol, methylene blue, phenacetin, piperazin, saccharin, phenyl salicylate (salol, now official), sulphonal, trional, aristol and salophen. The following would be excluded: Creosote carbonate, eucain, heroin, holocain, ichthyol, methyl acetanilid and orthoform.

ALKALOIDAL ASSAYS.

The U. S. Pharmacopeia of 1890 requires a certain alkaloidal standard for opium and cinchona, and the preparations of opium and nux vomica. This list will be largely extended, and assay processes fixing a standard of alkaloidal strength for the preparations of the following drugs have been proposed: Opium, cinchona and nux vomica, belladonna, hyoscyamus and stramonium, coca, guarana and kola, physostigma, ipecac, hydrastis, colchicum, pilocarpus, conium and jalap.

ANTITOXIN.

One of the most difficult questions for the committee to solve has been the admission of diphtheritic antitoxin. The principle of the Pharmacopeia heretofore has been that, inasmuch as the pharmacist is charged with the responsibility of maintaining the standard of identity, purity, quality and strength of all articles official, the Pharmacopeia must provide such definitions, descriptions, tests and assay processes as will enable him to determine whether or not the articles recognized by the Pharmacopeia respond to the official requirements. Since no biologic or pharmacologic tests have ever been admitted to any Pharmacopeia, presumably because these were not within the province of pharmaceutical practice, the admission of any article whose purity and potency could not be determined except through biologic methods appeared to be an insurmountable obstacle to the admission of any biologic product, and the convention, therefore, declared: "Physiologic tests for determining strength should not be introduced by the committee."

Owing, however, to the transcendent importance of the question of antitoxin, and inasmuch as the instructions of the convention were not directly mandatory, and especially in deference to the physicians on the committee who voiced the sentiment of the profession, evidently unanimous, as to the desirability, if not necessity, for the admission of antitoxin, and in order that the U. S. Pharmacopeia (1900) may not be charged with indifference to the greatest remedial agent of the decade it is to represent, the committee of revision decided to carefully consider the question. The matter was referred to a subcommittee, consisting of the physician-members of the committee, together with a number of eminent specialists in this field, with the late Dr. Walter Reed as chairman. Owing to the untimely and sad death of Dr. Reed, Dr. Theobald Smith was subsequently chosen to act as chairman, and this committee is now formulating a plan by which the antidiphtheritic serum will in all probability be admitted to the U. S. Pharmacopeia on the plan somewhat similar to that of the German Pharmacopeia of 1900.

DOSE.

The question of dosage has always been a bugbear to pharmacists. Some (without being able to formulate the proposition, what is a dose? In the terse manner of Dr. S. Solis-Cohen, "A dose is enough") have felt that the Pharmacopeia was trenching on dangerous ground in endeavoring to adopt an authoritative list of doses. It was charged, however, that the lack of such dose list in the only legal authority on medicines materially lessened its value to the practitioners, and that such should be incorporated. The sentiment of the convention being almost unanimous on this question, the committee was instructed to state the average approximate adult dose, and, where deemed advisable, also for children, after all articles which are used or likely to be used internally. These are to be given in metric quantities, as well as in approximate customary weights and measures. It is to be the distinct understanding that these doses are not to be regarded as obligatory or as not to be exceeded by the physician whenever in his judgment desirable, and a declaration to that effect is to be prominently made in the book. Its purpose, then, is simply to serve as an authoritative reference guide to pharmacists and physicians.

NOMENCLATURE.

While the aim of the Pharmacopeia is to adhere to a scientific nomenclature, it can not invariably do so. To change old familiar titles of some chemicals so as to conform to the modern chemical nomenclature would create confusion, be inconvenient in prescribing and dispensing, and impair the usefulness of the alphabetical arrangement. Carbolic acid, for example, would appear as "phenol," and arsenous acid as "arsenic trioxid," if the chemical nomenclature be strictly observed. Since the scientific names are invariably appended as synonyms for such titles, as well as for such articles as may be admitted under trade names, there can be no objection to such deviation from the scientific nomenclature in the official titles as may be determined for the greater safety and convenience of physicians and pharmacists. Sometimes the title appears in contradiction to the chemical name, without apparent justification, as in "chloral" of the U. S. Pharmacopeia of 1890, which should have been "chlorealis hydras"; chloral being a liquid, the hydrate of which is the well-known crystalline solid. The best of reasons, however, prompted this violation of chemical usage, namely, the belief that the use of the single word in prescribing would avoid the inevitable abbreviation of "chl. hyd.," and thus prevent confusion with "chlorid hydrarg.," and consequent errors and complications.

DISCUSSION.

DR. W. J. ROBINSON, New York—I consider the United States Pharmacopeia the best in the world. I am familiar with all of them, and as far as definiteness, succinctness and tests for purity are concerned it ranks above all. Still it is not popular with the physician. You will seldom find a physician who studies the pharmacopeia and rarely one who owns the book. It has always interested me to know why the physician never refers to the pharmacopeia. Among the many reasons I will mention one—it is the principal one—the pharmacopeia does not contain a very large number of substances which the physician prescribes daily. It contains about 200 various drugs like phytolacca, chelidonium, illium, inula, mezereum, pareira, juglans, etc., and such substances which the progressive physician of to-day never prescribes, while many of those which are in daily use are

not to be found in it. We can not blame the pharmacopeia for not admitting these substances. Many of them are proprietary remedies with a perpetual copyright, but still it is wrong to exclude them altogether. The solution of the question would probably be to have a pharmacopeia of the same character as the present one which should contain all the standard drugs, but it should have a supplement in which might be given the chief characters of that large class of drugs which are frequently used and of which we know the exact chemical constitution. That would not be giving them the full sanction of the pharmacopeia, but at the same time it would be serviceable to the physician. Concerning the dosage, I think that would be a valuable addition to the pharmacopeia and render it more popular. Of course, there should be no ironclad rule about the dose, as the mention of a definite dose might lead to confusion, but if the average dosage were included it would render the book more useful to both physician and pharmacist.

DR. B. PIROSH, Chicago.—The pharmacopeia should be in the office of every physician, for there is no better source from which to derive information in regard to the peculiarities of certain drugs. Concerning the bringing into the pharmacopeia of these preparations the patents of which have passed limitation, it should make no difference to the physician whether or not the patent letter has expired. I would prefer a remedy the patent of which is running to one the patent of which has expired—provided the composition and the physiologic action is known to me—for the reason that so long as it is protected and in the hands of only one manufacturer we know it is pure. When the patent is taken off and other parties take up the manufacture then there is adulteration. I think the doses should be incorporated in the pharmacopeia, as this would give the druggist and physician an equal opportunity to check each other in case of mistakes (on either part). I believe it would be well if the names of some of the drugs could be changed from time to time. Here in America, although it is our own fault, it seems to be a part of our business to tell the patient what he gets. The only benefit I can see from the knowledge of the patient about the drug he gets is to caution the next physician in case of idiosyncrasy to a certain drug.

DR. W. B. HILL, Milwaukee, Wis.—The metric system and the dosage are two bugbears of the pharmacopeia of 1900. It is a simple thing to put down the figures, but to get the people to use them is quite a different matter. I believe the dosage is the key to the situation, but that means a real revision of the pharmacopeia, not a so-called revision. If we add a dosage system to the pharmacopeia, a system in which the strength of the preparations is given, within certain limits we make the use of the metric system possible; in other words, we should make it easier to name the dose in the metric system than in the English system. There would then be no question about its adoption. If we look over the various preparations we will find that tinctures vary all the way from 5 to 35 per cent., some for a very good reason, others without any reason. Under the metric system the tinctures could be classified in two or three classes, the stronger ones with a uniform dose of 1 c.c., the next class with average dose of 5 c.c., and the third class in larger quantities, such as the weaker tinctures. In this way we might so simplify the dosage that one could remember more easily in the metric system than in the English system. The greatest difficulty in training the memory so as to use the metric system is in the very small denominations. The trouble is in the unit, and it is difficult for the student to comprehend it. If the pharmacopeia were arranged in a double manner, on one side the tinctures and triturations, each with a uniform dose, and on the other side the fluid extracts and extracts with a uniform strength, I believe the metric system would be adopted within five years.

DR. O. T. OSBORNE, New Haven, Conn.—I believe the trouble lies in our hospitals. At the Yale Medical School I have taught the metric system for nearly twenty years, and will venture to say that not 25 per cent. of our graduates write

prescriptions in the metric system to-day. We begin to teach *materia medica* in the second year, advanced pharmacology in the third year, and applied therapeutics in the fourth year. At the end of the second year the student is better versed in the metric system than he is at the end of the third year and at the end of the third year he writes better prescriptions than he does at the end of the fourth year. This is because he is constantly coming in contact in journals, text books and clinics with prescriptions written in the old system. When the student gets into the hospital he sees no more of the metric system, and when he leaves he has almost forgotten that there is such a system. Hence I believe that until the hospitals abolish the old system and take up the new, the medical colleges can not advance the use of the decimal system. As to teaching the doses of preparations, as an example, I classify the tinctures into poisonous and non-poisonous and put as many as possible together under one dose. In this way the student soon learns that a poisonous tincture has a dose of a few drops, and a non-poisonous a dose of a tea spoonful.

DR. H. A. MOODY, Mobile, Ala.—Dr. Osborne has voiced my experience. I have been teaching *materia medica* for about ten years. In the first year my students are required to copy prescriptions from the blackboard in the metric system and it is discussed—and I mean discussed—the students are invited to participate in the discussion and compare the metric system with the old system. In the study of therapeutics the students write the prescription in the old method first and then translate it into the metric system in order to be masters of both systems, for this is necessary if they are to practice in rural districts. The result is that they gravitate to the old system, and nothing seems to stop them. I believe it was Lincoln who said that "you can not fool all of the people all of the time." So I think there must be some solid foundation for the preference for the old system or it would have been dropped long ago. It is a fact that it is the most popular system all over the United States to-day. Dr. Robinson said the pharmacopeia contained a lot of drugs that had become obsolete and were never used by progressive physicians, and among other substances he mentioned *phytolacca*. Now, *phytolacca* is not obsolete all over the country by any means. This illustrates how utterly impossible it will be to satisfy all parties by any decision as to which drugs shall be placed in the pharmacopeia and which shall be omitted, or go into the appendix. You will be sure to offend the sense of propriety of some. Another statement referred to was the physiologic test of drugs. The committee decided that they could not use that test of drugs for the pharmacopeia. It seemed to me that this referred principally to the animal serums. Now, there are other drugs whose strength we can ascertain in no other way, such as *ergot*, *digitalis*, etc. Is the physiologic test used to standardize medicines such as these?

DR. F. R. WEBER, Milwaukee, Wis.—We have in our school those who prefer the old system and those who prefer the metric. The effect of this is to accustom the students to one as much as to the other, and it is easy for them to prescribe in either system. It is only laziness that causes them to ignore the metric system. When the metric system was introduced in Germany, within a year all the old books and the old systems were changed. If our books would change and only contain the metric system how quickly would the nation throw off the old system and take up the new. The trouble with the United States is that we still prefer to read English articles, and in England it is practically impossible to introduce the metric system.

DR. C. S. CHAMBERLIN, Cincinnati—There must be some reason for the hold which the old system has on us. I studied both systems when at college and for three years taught chemistry, using the metric system entirely. In my practice I tried to use the metric system, but I never got beyond the point where I did not have to translate from the old into the new. In regard to *phytolacca*, Dr. J. B. Shoemaker has an article in the October, 1901, *Medical Bulletin* which covers

at least four pages, in which he declares that it is one of the best alternatives and the best of all remedies in mastitis.

PROF. C. S. N. HARRIS.—With reference to the scope of the pharmacopœia it has been very difficult to get anything like statistics in the United States. We have compiled the different kinds of articles which enter into hundreds or thousands of prescriptions in the different sections of the United States and we never before realized what a vast country this is. The medicines which may be considered obsolete in one section are used in great quantity in another section. You must remember that we have here in the United States a medical and a pharmaceutical population which is cosmopolitan. The United States Pharmacopœia may well be considered a combination of all the pharmacopœias of Europe revised and condensed. The committee does its best in getting information as to what these articles are and which should be admitted. As to the supplement, which should include a number of articles, as suggested by Dr. Robinson, I believe that is a questionable expedient. The pharmacopœia has a legal standing, not by act of congress, but by laws in the states where ever there is legislation affecting pharmacy or pure food and drug laws, in such states it is recognized as the standard. Of course, if these articles were simply enumerated therein it might serve a purpose, but that is doubtful. The American Pharmaceutical Association issues a National Formulary and it might be advisable to enumerate in that such articles as Dr. Robinson suggests. That the strength of galenic preparations should be based on the posology instead of on the drug strength is a new proposition and one not recognized in any pharmacopœia. The pharmacopœia is first of all the hand book of the pharmacist; it is his manual from which he makes his preparations, as far as the galenic preparations are concerned, and because of the use of the metric system it is desired to maintain the percentage proportions. Any change therefore, which would involve too much deviation would be embarrassing to the pharmacist. To fix even the general average doses of these preparations would make them of a strength without any determined relation to the drug. Dr. Wood for instance, administers tincture of digitalis in teaspoonful doses, while others give one-fourth that amount. Now, what should be the drug strength or tincture of digitalis? To obviate this confusion last year at Brussels there was a conference "for the unification of the strength of potent remedies." Dr. H. C. Wood, Philadelphia, attended this international conference, at which were representatives from every country in Europe. It was decided that tinctures should be in two classes, the potent drugs of a 10 per cent and those less potent of 20 per cent strength. That will be a great pharmaceutical convenience, though it does not conform to Dr. Hill's suggestion except to the extent that there is a distinction between potent drugs and those that are less potent. But here arises a great difficulty, the tinctures of the most potent drugs are of the greatest drug strength, tincture of aconite is 35 per cent, tincture of veratrum viride is 40 per cent in strength, while tinctures of drugs which can not approach these in potency are only 10 or 5 per cent. The committee has, however, decided to follow this principle, and is going to change the strengths of the tinctures of aconite and veratrum viride to 10 per cent. There is a tendency toward the unification of potent remedies and this conference fixed the strength of all arsenical solutions at 1 per cent, which is uniform in all the pharmacopœias. The question of patents raised by Dr. Prosh is scarcely within the limits of the paper. A patent is limited to seventeen years. There is no objection to a patent but what we call 'patent remedies' are of secret composition and never get the name or being patented from the fact that the name or label has been copyrighted and the profession is not furnished the formula. The only way to learn the metric system is to work with it. Pharmacy students have to work with the metric system in all branches. Annually, during the course, a vote is taken among the students as to their preference, and only once in ten years one man said he preferred the old system after working with the metric system for three months. The great advantage of the metric system is shown

in recent works on pharmacy and therapeutics. In the older works an ointment, for example, has to be prescribed "a dram to the ounce," or "30 grs. to the ounce." Compare that method of expression to the clear, concise statement that an ointment is 1 per cent, or 2 per cent, or 10 per cent. strength. Applied to solutions and preparations for external use the metric system goes hand in hand with percentage strengths, and is the only scientific method of expression.

HOW FAR SHOULD THE SPECIALIST IN RHINOLOGY AND OTOTOLOGY PRESUME TO TREAT THE SYSTEMIC CONDITION OF HIS PATIENTS?*

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In many of the papers dealing with the treatment of catarrhal conditions of the nose, throat and ears, we find such suggestions as the following: "The general health should be carefully looked after," "any deviation from the standard of health should be corrected," some putting the case stronger and claiming that no success can be hoped for unless the general health of the patient is made perfect, or at least made better. If this is the case, our first inquiry should be in regard to the qualification of the specialist. Is he able and prepared to make a diagnosis of all the obscure conditions of the general system which the general practitioner has overlooked? If he is able to do so will he do it in the short time which he generally devotes to the consideration of a case? Assuming that he is able and willing to do this, should he treat the case or should he refer the patient to his family physician, explaining to him that the local disease depends on such and such a general condition? These are serious questions, and it is fully time that we stated definitely just what we mean. In discussing these questions I shall simply state my views with the purpose of arriving at some definite conclusion as to the course to pursue.

It is a well-known fact in all branches of human knowledge that the more distinctly a man is a specialist, the less his opinion is worth about general questions, and often about subjects intimately connected with his own specialty. If this is so in the exact sciences, how much more is it likely to be true in medicine? There are several reasons why, in my opinion, the specialist is not as well qualified to make a diagnosis and, therefore, to treat the general condition. The first of these is the fact that he sees most diseases through the medium of his own specialty; secondly, he often does not have the requisite training, and if he has it he soon gets out of touch with the subject of general medicine; thirdly, he does not keep touch with the literature of general medicine, fourthly, he does not have at his command the necessary instruments of precision; fifthly, the patient comes to him for another purpose and does not volunteer information with which his family physician is perfectly familiar, and, lastly, he does not take the necessary time to investigate the functions of the different organs and to obtain a complete history of the general health. It is only by such a painstaking investigation that an accurate diagnosis can be made.

On the other hand, the specialist often sees the local manifestations of disease conditions which may have been overlooked and which perhaps the family physi-

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cian has had no opportunity to investigate. It has been my experience that the general practitioner is usually grateful for the light which our examination may throw on a case. The very ease with which we are able to make a diagnosis of some general diseases by their local manifestations leads us into the error of thinking that we are able to diagnose with equal ease all the diseases of the body. In reality, the diseases which we are able to diagnose from local manifestations are very few, and they are often far advanced before the local characteristics are sufficiently marked to enable us to arrive at definite conclusions. We form impressions of cases, but we should bear in mind that clinical impressions are not always clinical facts. To make a diagnosis of systemic disease requires time and patience, a thorough knowledge of clinical medicine, the necessary instruments of precision, and constant practice with the privileges of a large clinic. Are we prepared for this work? The papers in which the systemic factor is most strongly insisted on do not present internal evidence that this course has been pursued, but, on the other hand, the papers abound in vague illusions and loose generalities until we find ourselves in the position of the lady who had been discussing the subject of the future state with Dr. Johnson: "She seemed desirous of knowing more," says Boswell, "but he left the question in obscurity."

A statement that the general health should be attended to without any suggestions as to what conditions may, or do, unfavorably affect the so-called catarrhal disease of the nose, throat or ears, is not of much use as a practical guide. Do we mean to say that the local lesions are caused by the general condition, or do we mean that they are only made worse by it. If the systemic condition is an important etiologic factor in the production or continuance of the catarrhal diseases of the upper air tract, then it is high time that we should have some definite knowledge of the subject. We should know what diseases act as causes and in what way they so act.

So far as one is able to judge from the writings of the men who make the claim of systemic influence, they attach a great deal of importance to the form of intestinal absorption that goes by the modern name of uric acid poisoning. I do not deny the existence of the condition, but this is hardly the place to enter into a discussion of whether uric acid has anything to do with it. Those who are firmly convinced that it does would do well to read the paper by the President of this Association on the subject. Whatever the etiology of the condition, the question for us to decide is how much of a factor is it in the production of local disease in the nose, throat and ears. There is no doubt that every secreting surface in the body participates in the effort to eliminate these poisons, and the nose and throat, having secreting surfaces, share in this effort. This is manifest by increased secretion and local irritation, which should, and probably does, continue while the process of elimination is going on, but should not continue after elimination is completed. It may be urged that many of these patients are in a state of chronic poisoning, but this is not usually the case because it leads to such a degree of ill health that some effort is made to correct the condition. If no effort is made by the patient, Nature usually takes a hand and helps to correct it. After granting all that may be caused by intestinal absorption, it must be admitted that the term uric acid poisoning has answered as an explanation of a good many things which we did not

understand. It is a notable fact that as we know more of any subject we are less likely to seek for an explanation of any obscure condition from this source. It is safe to claim that uric acid does not offer an explanation of chronic catarrh of the nose, throat and ears, and that we must seek for other etiologic factors. The question is what other diseases do have an influence. The diseases which we shall discuss are perhaps not all that may serve as etiologic factors, but will give an indication of what we have to deal with and of some things that had better be let alone so far as we are concerned.

Syphilis and tuberculosis we have always with us, and when the lesions are located in the upper air tract they may very properly be treated by the specialist. Nephritis and diabetes, as well as leukemia, may have local manifestations in the nose, throat and ears, but the only relief which these patients obtain is from the treatment of the general condition.

The sequelæ of the diseases of childhood, the eruptive fevers, influenza and pneumonia, may include not only suppurative diseases of the ears, but also catarrhal disease of the upper air tract. If we were able to trace most of the cases of catarrhal disease of the upper air tract to their source, I believe that we should find that most of them originated in the diseases of childhood or in the infectious diseases. It is believed by many otologists that most of the cases of ear disease originate in childhood, and that if a person escapes ear disease until he is 20 years of age that he will, barring accidents, escape during life. I believe that the same statement holds true in regard to the catarrhal diseases of the nose and throat. Included in the list of accidents are the inflammations which may occur during the course of the infectious diseases. It is worthy of note that persons with perfectly healthy upper air tracts are not so liable to these accidents as are those who already have disease there. These sequelæ furnish by far the largest class of cases with which we have to deal.

It has been claimed that anemia and malnutrition from whatever cause are potent factors, but how far this is so is a mooted question. It is, however, extremely doubtful if they ever act as a primary cause. Disease of the upper air tract is often a potent cause of malnutrition, but it should not be forgotten that malnutrition and catarrhal disease may be associated in the same patient without either having a direct bearing on the other. It is often a very complex question which we have to decide, still it is always well to bear in mind that catarrhal disease may be, and often is, a source of ill health.

It has been claimed that there is no special pathology for aural disease, and the same may be said in regard to the diseases of the nose and throat, but, notwithstanding, we have in the chronic diseases of the nose, throat and ears a condition which, with one exception, we do not find in other parts of the body. This peculiarity is not due to a different etiology or pathology, but rather to the anatomic construction and the functions of the regions under consideration. The acute inflammations are due here, as in other parts of the body, to bacterial infection, and the chronic conditions are the sequelæ of the acute attacks. The exception noted above is a disease of the ribs following pleural empyema, which closely resembles that most hopeless of all ear diseases, spongy degeneration of the labyrinth. The disease of the ribs is undoubtedly the sequel of the pleural inflammation, and, for anything that we

know to the contrary, the disease of the temporal bone may be the sequel of an acute inflammation. In fact, we know hardly anything about the disease as yet, except that we are able to recognize it and have studied the condition of the bone after death. So far, any treatment which has been employed has been absolutely without effect, and this does not argue an extensive knowledge of the disease.

Progressive deafness is rarely influenced by rheumatism, and almost never associated with deforming arthritis. Patients with progressive deafness are not more liable to have deforming arthritis, and patients who suffer from deforming arthritis rarely ever have trouble with their ears. It would seem that the two diseases should be more often associated if there were any connection between them.

We have to deal with a disease which is persistent and often progressive, and one that does not depend on the systemic condition only in a general way, at least we are not able to claim that it depends on any definite systemic condition. To what, then, can we ascribe the chronicity of these cases? The explanation of this is found chiefly in the anatomic construction of the parts. We have here a large number of cavities which, when once they are infected, are not easily healed. Spontaneous recovery is slow because the drainage is not good even when there are no deviations from the normal anatomic construction, but we often have to deal with more than the usual amount of obstruction either by reason of faulty construction of the parts or as a result of disease. If we add to these causes focal disease within the cavities and the difficulty and often impossibility of direct treatment of the cavities we shall find a sufficient explanation of why these cases run a protracted course.

From all this I do not wish to be understood, for a moment, as claiming that it is not necessary for the specialist to have a thorough knowledge of general medicine. The more medicine the specialist knows the safer patients will be in his hands, and it is not only necessary to be a thorough student of medicine, but it is also necessary to have practiced general medicine. The practice of general medicine broadens one medically and intellectually, and while it is true that when he enters special work he soon loses that delicate touch with general medicine which enables him to form a true estimate of the general health, still he never grows so narrow medically or mentally as he would have done if he had never had the practical training in general medicine. Those who have become good physicians before they become specialists are not usually the ones who attempt to treat the general condition, because they realize how difficult it is for one who is out of touch with general medicine to make a diagnosis of the systemic condition. We have, then, so far as we are concerned, a local condition with which to deal, and we shall be doing a service to our patients when we refer them to their family physicians for treatment of any condition of ill health which may exist. If, however, the local disease is caused by the systemic condition, I can not help feeling that the patients are in a serious situation, because the specialists, as I have attempted to show, are out of touch with general medicine, and are, therefore, unable to treat successfully the general health, and the general practitioner, either from lack of training or because he is too busy, can not carry out the local treatment which experience has shown is beneficial in these cases. The ideal specialist would be

the general practitioner who has had a thorough training in that particular branch of special work, but it is hardly possible, under present conditions, for such a one to receive the support of the profession. If we keep constantly before us the fact that all special work is only an adjunct to the work of the family physician and labor intelligently with him for the single object of relieving our patients, we shall have the satisfaction at least of knowing that we have done all that it is possible for us to do for them.

DISCUSSION.

DR. SARGENT F. SNOW, Syracuse—The relation between systemic disorders and local affections of the head is one of the points that determines the success of the treatment of chronic catarrhal affections. A specialist who treats chronic catarrhal affections of any organ and does not recognize the influence of systemic conditions, is in a bad way, and so are the patients that may come under his care. I thoroughly agree with Dr. Cobb that there are many things to prevent the specialist from doing for these patients as he would like, but he must not be too technical and draw his lines too fine. It has been my experience that no case of advanced deafness or advanced catarrhal states depends on local conditions alone. A bad case of catarrhal disease of the ears or throat is probably associated with some systemic disorder or some great fault in personal habits. Bad liver and intestinal disorders will produce congestions of the head membranes just as surely as will bad habits and exposure of the body or keeping the skin tender by hot baths, etc. Local morbid nasal states must be taken care of, but on that alone we must not rely if we expect to help our chronic cases.

DR. GEORGE E. SHAMBAUGH, Chicago—I agree heartily with the essayist. I believe medicine has to-day arrived at a point where no man can understand all about medicine. Internal medicine itself is just as much a specialty as is the study of the nose, throat and ear. We usually discredit a man who presumes to treat all the specialties as one who goes beyond his bounds and can not do anything thoroughly. So the specialist who attempts to treat general diseases makes a mistake. I believe it is best to be in very close relation with the family physician in these cases. The better class of general practitioners recognize specialism and heartily co-operate with us in our work.

DR. D. A. KURK, Richmond, Va.—In the future we will have fewer ready-made specialists than we have had in the past; they have been chiefly the result of faulty instruction in the colleges. As our knowledge increases our courses increase and become more intensive. I impress on my students the importance of thorough medical knowledge. A man should not undertake to practice a specialty until he has had from five to ten years of general medical practice. Then, when he finds his adaptability to a specialty, he may go into it. The specialist of the future will be a better prepared man. I look on these local conditions largely as manifestations of general conditions. No medicine can possibly approximate the result we get in many cases from exercise. If we keep our oxygenation, combustion and elimination in good condition, we will often be able to defy the micro-organisms.

DR. W. SCHIEFFEGRELL, New Orleans—The trouble is not so much that the general practitioner attempts to practice this specialty as it is that he ignores it. As an illustration, a child had been treated eighteen months for malarial fever, of a recurrent type and had been given quinin in large quantities and had been sent to places where malaria did not prevail, all to no avail. She had a discharge from the nose, and when the patient came to my office I removed a rhinolith which had caused considerable irritation of the tissue of the nostril, and the discharge of pus and from its absorption, the fever. The child was well in a few days. On one occasion I was about to perform a tonsillotomy. The child was very nervous and had some symptoms of fever. I asked if the child had been ill, but was told that it was only nervous. The nurse found the temperature 101.5 F. I declined to operate. I did not see the

mother until three weeks later. She then told me that the day following the visit to my office, the child's face enlarged with mumps. If I had operated the swelling would have been ascribed to the operation and not to the mumps.

DR. CHARLES H. BAKER, Bay City, Mich.—Undergraduates have not had proper training in the specialties. The general practitioner is not sufficiently alive to those conditions, which—if he recognized them even though he did not treat them—would redound to his credit and would strengthen him. Frequently men have sent cases to me without a diagnosis or with a diagnosis as likely to be wrong as right. But the general practitioner makes himself stronger in the esteem of his clients when he recognizes these cases and sends them to the specialist. The men who are the most successful practitioners are also the men who are in the closest touch with the specialists. Sometimes cases are sent by men who are absolutely incapable of giving the necessary general treatment, and then it becomes a very serious question whether we should overstep the bounds of our specialty that treat the general conditions when necessary. In such cases, if I had sufficient influence with the general practitioner, I give him suggestions along from time to time but do not hesitate to give the patient necessary treatment to secure results.

DR. O. JOACHIM, New Orleans—Just as we need the knowledge of general surgery, we need also a knowledge of general medicine in order to treat the general conditions of these cases. I have found, as has Dr. Cobb, the greatest willingness on the part of the physicians to second our efforts, and they are glad to have us make suggestions and give them points, and sometimes to the betterment of the patient they can show us points. I have known patients to leave the specialist, and under general treatment by the general practitioner receive benefit which the specialist was not able to give. The laity and the physician often speak of "catarrhal" diseases, which is a very unmeaning term. We have more precise terms than "catarrhal diseases," and we should eliminate this term as far as possible from our discussions, except when referring to the diseases to which a catarrhal process strictly relates.

DR. H. W. LOEB, St. Louis—Of course, the more knowledge a man has before he becomes a specialist the better he will be. A few years ago I looked into the general treatment of chronic pharyngitis and found some thirty different plants. The majority referred to the treatment of the stomach. Then I looked up the treatment of the stomach diseases and found a great number of conditions which I did not understand, and concluded that I for one could not treat the general condition in these cases intelligently. I am sure Dr. Cobb feels as I do, that there should be considerable limitation in the treatment of the general condition. The point especially to be brought out is, not that the general practitioner does not send to us the cases often enough but rather that we do not send our cases to the general practitioner often enough. In that way we often fall into error.

DR. CHARLES W. CRUMB, Utica, N. Y.—This question is of great importance to me, because with a large country district surrounding, I have many cases sent by the general practitioner. In some cases I have a great deal of trouble with the general practitioner. For instance, take a case in which I am sure there is a specific element, if I say to the general practitioner that it is a specific case, he will often say that he knows from the history that it is not. Often we can not impress on them that certain cases are specific. What shall we do? Shall we let the patients go back and have recurrences or shall we treat them?

DR. GEORGE L. RICHARDS, Fall River, Mass.—I think it is entirely a question of tact and common sense. When the patient comes to me for treatment he is entitled to the best I can give him, and if that requires a correlation with the general practitioner he ought to have it. But many cases come to the specialist of their own accord. Sometimes other things than spraying are required, and if a prescription is necessary I think he ought to have it. The patient has some rights and he should not be required to go back to the general practitioner for a prescription and pay two fees! The general practitioner is in the best of relations with me and we work

together. But if I find a general condition accounting for the nose or throat condition, I frequently prescribe for it. But, of course, I would not treat general conditions, such as mumps, etc. Nor do I send every case to the general practitioner for a dose of calomel when that is required. When you have a case sent to you for diagnosis and initial treatment you are compelled to return the case to the general practitioner, by the requirements of ethical conduct. A little tact and common sense will take care of this whole subject, and it seems to me we are largely threshing a man of straw here.

DR. C. M. COBB, Boston—The statement of Dr. Richards does not seem to cover the ground. We are often told that the catarrhal diseases, at least in certain cases, depend on a constitutional disease or condition. We want to know just what it does depend on, what the constitutional disease or condition is. Unfortunately there is too often a feeling of distrust on the part of general practitioners toward the specialists. They consider them to a certain extent rivals in business. The patients do come to the specialists often of their own accord and the specialist will give them general treatment, for instance, a dose of pepsin or something for indigestion and they will be all right. Now, are we justified from the simple statement of the patient to go ahead and prescribe for him? I do not think we are. Not long ago a man came into my office with some trouble with his nose and throat and I found he had too much other trouble, and I asked his family physician's name and sent him to his physician. Another patient came to me and I treated him once and he recovered. He came back again because of pain, but I could find nothing in the way of a local disease, and I sent him to his family physician with a note saying that something was poisoning the patient, but I did not know what it was. The physician later told me that it was a case of malaria. I do not suppose that would occur here, but it did occur in Massachusetts. The trouble with the specialists, as well as with the general practitioners, is that they often attempt to do things they can not do. In one case I was firmly convinced that the patient had hay fever. She came once or twice. Later I saw the family physician and he said she had had convulsions, and an examination of the urine showed chronic nephritis, from which she died. If she had complained to me of anemia or some condition of the stomach I might have given her something that possibly would do no harm or that possibly might have done harm. If the general practitioner will say it is a simple case, all well and good, but if we are to say a case is simple or serious it is a very different thing. The patients often say that they have such and such a physician for simple things, but if there is anything serious they have somebody else. I do not know how they determine whether it is a simple or a serious disease. Ninety per cent. of our cases are of local origin, if we take out of consideration syphilis, tuberculosis and the malignant diseases. Often it is better for us to look the cases over, for sometimes the general practitioner may make mistakes. But he is not so likely to make mistakes about the general conditions as we are. Of course, we all at times make mistakes. Sometimes the patients come to me and say they have no confidence in their general practitioner. I think the specialist will do better if he will stick to the patient's family physician, for it is not our business to pick out their family physician. We should remember that catarrhal disease means no particular disease. After the local disease is treated, usually the diathesis or catarrhal disease disappears.

A Case of Nutmeg Poisoning.—According to *The Lancet*, a young woman took, to restore the menses, a whole nutmeg grated in a wineglass of gin. The monthly flow had been delayed two weeks, and the patient feared pregnancy. Convulsions ensued and the patient was found in collapse by the medical attendant. General condition began to improve in about an hour after treatment was begun; her stomach was thoroughly emptied. She remained in muttering delirium for one night, slept heavily the next day and awoke fully recovered.

THE EARLY MANIFESTATIONS OF LARYNGEAL TUBERCULOSIS;

THEIR FREQUENCY AND TREATMENT.*

H. H. BRIGGS, A.M., M.D.

ASHEVILLE, N. C.

The early rather than the late manifestations of laryngeal tuberculosis are chosen for consideration because the lesions of the advanced stages are self-evident, and our services to such unfortunates are but meager and palliative, while the earlier lesions are more difficult of recognition, but may be, by perseverance, occasionally checked and possibly eradicated.

It is not the scope of this paper to discuss the etiology of laryngeal tuberculosis, nor whether it is occasionally primary or invariably sequential to pulmonary tuberculosis, nor whether, as a sequela, the invasion is endogenous or exogenous, but rather to consider the pathologic changes prior to the ulceration.

It has been my custom to examine the larynges of subjects of pulmonary tuberculosis with a view to ascertaining the condition of the larynx prior to the characteristic tumefactions and infiltrations. The great majority of these subjects have a subacute or chronic laryngitis which does not differ in laryngoscopic appearance from a laryngitis of diathetic or climatic cause. There is either uniform thickening of the mucosa or an irregular thickening and hyperplasia of reddish hue of the ventricular bands and arytenoid commissure, presenting dilated blood vessels and covered with thick, grayish mucus. This laryngitis persists notwithstanding the ordinary treatment for such conditions and is principally dependent on the tubercular dyscrasia. The fact that such larynges are often constantly irritated by pus may be a most potent factor causing its persistence.

Notwithstanding the opinion of Bosworth to the contrary, there seems to be ample proof that the laryngitis in pulmonary tuberculosis is predisposing to the laryngeal tubercular invasion, although the laryngitis itself is probably due to the tubercular dyscrasia and the concomitant cough. Solis-Cohen says that "a predisposition to catarrhal inflammations of the mucous membrane may be regarded as the chief cause of laryngeal tuberculosis," that "many of the chronic cases begin with subacute catarrh which can not be distinguished as peculiarly precursory to laryngeal tuberculosis either by subjective symptoms or by laryngoscopic inspection," and that "in the primitive cases a severe exfoliative laryngitis is the direct predisposing cause" and affords entrance to the tubercle bacillus.

This chronic laryngitis, neither pathognomonic nor characteristic of tuberculous laryngitis, is, nevertheless, the initiative step in the great majority of cases to that lesion, and should be considered as possibly leading to a serious complication in any pulmonary case. We would concede the fact that there may often be a laryngitis in a tubercular patient from other diathetic cause, bearing no sequential or etiologic relationship to the tuberculosis, and also that even many such ulcerative larynges are non-tubercular.

In keeping with the foregoing it has been my observation that three-fourths of the pulmonary patients have some nasal stenosis, and seemingly at variance with the opinion of Fletcher Ingals that the nasal catarrh protects rather than predisposes to pulmonary tuber-

culosis is the fact that the majority of the laryngeal cases have septal or turbinate deformities.

The acute form of laryngeal tuberculosis usually begins when softening has taken place in the lung and when the laryngitis has reached its crisis. Anemia of the parts is not present and the first sign is a hyperemia which may last days or weeks, following which are the multiple erosions on the laryngeal surface of the epiglottis and arytenoids with, or soon to be followed by, tumefaction in the epiglottis or aryepiglottic folds. These erosions may simulate very closely aphthous ulcerations and are distinguished principally by their multiple character. They eventually enlarge, grow deeper and coalesce, and may precede or occur on a tumefaction, or the latter may develop and remain without an erosion or ulceration.

The chronic form usually begins with an anemia in the arytenoid commissure, arytenoid bodies, ventricular bands or epiglottis, and presents a homogeneous and smooth yellowish-gray color of the intumescent membrane. There may be the so-called mottled appearance caused by spots of deeper hue. This pallor may be a part of a general anemia, and is sometimes present throughout the respiratory tract unassociated with any laryngeal lesion. In either form the parts become thickened early, presenting an infiltrated interarytenoid space, a club-shaped arytenoid or a turban-shaped epiglottis, and later there is sometimes thickening of the parts adjacent to these, especially if there are subacute attacks of laryngitis. An infiltrated ventricular band may obscure a portion of a thickened and congested cord or the latter may be involved in the general pallid edematous condition and yet show in contrast congested blood vessels. The bands may show a nibbled appearance of their edges, and the same may be true of the cords, especially on and near the processus vocalis, where the condition is difficult to detect.

The local subjective symptoms of the early stages may be wanting or simply those of a chronic laryngitis. There is usually a hacking cough, pricking, itching and dryness of the throat, hoarseness and later aphonia and occasionally dysphagia. The cough is distinctly laryngeal unless the repeated hackings induce a spasmodic and expulsive deep cough, but the effort is primarily to free the larynx from the tickling and dry sensation.

The impairment of the voice depends on the nature, location and extent of the lesion. In the chronic cases there may be constant hoarseness which may tend to clear up after a meal, or the drinking of liquids, and yet a large per cent. shows no hoarseness in this stage. If the lesion is in the interarytenoid space there sometimes occurs a diphonic voice.

The pitch limits are also affected, but usually the upper suffers more than the lower. The volume may be markedly affected, the immobility of the parts necessitating a forced expiratory act to start the cords vibrating, and even then weak phonation results. One or more words of a sentence may be whispered.

Odynphagia is seldom present in the pre-ulcerative stage, but may occur when the epiglottis, aryepiglottic folds, or the posterior portions of the larynx are involved.

The diagnosis of secondary laryngeal tuberculosis depends on the tubercular history, symptoms and signs. A persistent, chronic laryngitis with the supervention of hoarseness or a weakening of the voice is always suspicious. In the primary cases the attack usually dates

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woolen.

back to a severe cold, and the hoarseness is more marked than in the secondary cases. In any case, while the symptoms are of value, the diagnosis will mainly depend on the laryngoscopic appearance. Von Ziemssen doubts the possibility of recognizing the lesions laryngoscopically, yet Lennox Browne considers the laryngeal picture as characteristic. A tubercular lesion presents an infiltration of the mucosa proper, an exsanguination and a diminished secretion. The color is a shining grayish or yellowish pink and the location is usually in the interarytenoid space, arytenoid bodies, ventricular bands, epiglottis and vocal cords. The interarytenoid space at first shows only a thickening, but later a roughened convexity anteriorly. The arytenoid bodies and aryepiglottic folds become club-shaped to the extent of obliterating the Wrisberg and Santorini prominences. The infiltrated ventricular bands may obscure the ventricles and often cover the cords, and the latter, especially the processus vocalis, quickly become congested and nibbled by erosions. The turban appearance of the epiglottis seldom appears in the early stage, but usually follows after other parts have broken down.

The evening pyrexia, anorexia, small and rapid pulse and cough assist in diagnosis.

The presence of the tubercle bacillus can not be regarded as of diagnostic value except as being indicative of a lesion somewhere along the respiratory tract.

The course of the disease depends much on the general condition, the extent and course of the pulmonary lesion, if such exists, the nature and location of the laryngeal lesions, the co-existence of syphilis, and on the treatment. The acute and miliary forms are rapidly fatal. The prognosis in the chronic cases is also, of course, unfavorable. As a rule, the laryngeal condition keeps full pace with that of the lung. In a few cases under favorable conditions and where the physical resistance is good the infiltrations or even the tuberculomata may remain indefinitely or disappear, especially under persistent appropriate treatment and climatic influence.

Of the greatest importance is prophylaxis, especially in those suffering from pulmonary tuberculosis. Aside from the general treatment indicated for the tubercular dyscrasia, there should be, at intervals not exceeding one month, a careful laryngoscopic examination made and, at the first indication of a laryngitis, appropriate treatment should be begun. By this is not meant a routine spraying, but each patient having anything but a normal larynx should have whatever treatment may be necessary for the condition present. Fewer laryngeal complications to pulmonary tuberculosis would ensue if this were done.

Overuse of the voice, faulty phonation and needless hacking and scraping the throat, much of which is a habit rather than a necessity, invite the inflammation.

Nourishment is of prime importance, and to this end forced feeding within physiologic limits, with moderate open air exercise and abundance of sunshine is necessitated. The greater part of the twenty-four hours should be spent out of doors. Regulated long hours of sleep in a cold, southern-exposed room with open windows, barring direct drafts, are essential.

The effect of climate is disappointing as directly influencing the local lesion, but indirectly, acting on the general predisposition, is second in importance to nourishment. The greatest number are benefited by a climate of moderate temperature and of medium hygro-

scopic conditions, in an elevation from 2,000 to 3,000 feet. Air free from dust and gases of the cities, purified by moderate winds and rainfall and an abundance of sunshine has proven beneficial to many having laryngeal complications in whom the process is either arrested or cured. The warm, moist climate of lower elevation is better suited to a few who are not enervated thereby.

The voice should be completely suspended in the acute form or during an acute exacerbation of a chronic case. To facilitate this, which is difficult to accomplish, a pencil and pad should be used by the patient and his necessary communications written thereon, and during the greater part of the day he should be left alone, thus eliminating the temptation of speaking. In the less severe cases moderation of the voice and in the amount of speaking should be insisted on. In no case should singing or reading aloud be permitted. Many patients have a faulty mode of speech specially fatiguing to the larynx. The effort is laryngeal rather than from the chest, and often an affected voice from habit must be contended with.

There is too much routine spraying and inhaling treatment in vogue, throwing into the larynx variously combined oils and liquids, many of which are not only non-solvent but actually coagulating to the secretions and instead of cleansing and soothing often form a tenacious, irritating mucous coat nauseating to the patient. The principles of treatment are not unlike those in other lines of surgery, cleanliness being the prime factor. If the parts are covered by tenacious mucus or debris a bland solvent such as a solution of sodium bicarbonate, sodium chlorid, sodium biborate or sodium sulphate should be gargled, sprayed or applied on a cotton sponge thoroughly but quickly with the least possible irritation to the parts. The patient should not be requested to assist in dislodging retained secretion by repeated coughing or hawking for the effort is too fatiguing for an organ needing rest and induces hyperemia. After the cleansing process, the inflammatory condition should receive such treatment as is indicated, and usually astringents, solutions of zinc chlorid, tannate of glycerin, creosote and iodine, pyocetannin and silver nitrate on a cotton swab are most efficient.

Any pathologic condition of the nose and pharynx should receive appropriate treatment. Not only that the pulmonary patient may be able to supply his lungs plentifully with air, but that the larynx may be the recipient of air properly warmed, filtered and moistened, every nasal and pharyngeal stenosis should be reduced, and to this end no moderate degree of cachexia will contraindicate the removal of septal spurs, or deflections, hypertrophied turbinates and adenoids, for the increased oxygenation will more than compensate for any debilitation resulting therefrom. Such measures are to an extent prophylactic to tubercular laryngitis.

There is much diversity of opinion as to the indications for local treatment of the pre-ulcerative conditions. Theoretically, stimulants to the anemic and sedatives and astringents to the hyperemic areas are indicated, and my clinical experience conforms to this. Where there is a general anemic condition of the larynx and a beginning tumefaction, a stimulating spray of 20 per cent. menthol in liquid vaselin, or 50 per cent. guaiacol in olive oil will tend to restore the capillary circulation. Propelling sprays with hot instead of cold air adds to their efficiency.

As the tumefaction advances an application of iodine, creosote and potassium iodid in glycerin and water often has an absorptive action. The erosions and incipient ulcerations respond better to strong solutions of lactic acid than to any other application. Creosote 20 per cent. in albolin, pyoctannin and iodoform powder are also effective. It is needless to say that the mirror should guide the hand in all applications.

Intralaryngeal injections often serve well for both the general dyscrasia and local lesions.

Submucous injections have not with me proven satisfactory. The method of scarifying the tumefaction is, I believe, contraindicated. In certain selected cases where the infiltration is localized and accessible, especially in the so-called primary cases, thorough curettement followed by carbolic acid or lactic acid is permissible.

DISCUSSION.

DR. M. P. SCHUSLER, El Paso, Tex.—I am located in a place that is supposed to be inimical to this condition, and I have about fifty cases. The cough and the dyspnea are very great in these cases. While the average expectation of life in tubercular cases has been given as three years, laryngeal tuberculosis reduces it to two years. There is a premonitory stage without laryngoscopic symptoms. I have seen two cases in which I was sure tuberculosis was coming on, but I could not establish this by microscopic or laryngoscopic examination. Later the trouble became manifest. In a young man the only manifestation was that he would have a severe spell of coughing, resembling the staccato cough of whooping cough. Sometimes its intensity would lead to vomiting. I was very much gratified to find this fact emphasized in Brouardel's "Traité de Médecine," that a cough with only a small amount of expectoration, accompanied often by vomiting, should lead one to suspect tuberculosis. I have the impression from the literature and my own experience that there is very little primary tuberculosis in the larynx. If it is present it does not produce those infiltrated and deeply ulcerated spots but only little nummular ulcerations that are more amenable to treatment. I was glad to hear Dr. Briggs state that the appearance is hyperemic, for the books often say it is anemic, and my experience is that it is more often hyperemic. The dysphagia comes on most frequently when there is involvement of the posterior periphery, especially the club-shaped infiltration of the arytenoid bodies and also in the infiltration of the interarytenoid fold. After treating patients for four years and trying to avoid local treatment, I have come to the conclusion that we had better treat locally because there is considerable relief secured. For instance, in dysphagia, the dusting with orthoform will enable patients to take their meals. I would like to know Dr. Briggs' proportion of cures. In the literature and in my own experience cures are exceptional. The ulcerated cases are more amenable to treatment than the cases with unbroken surface. You can cure up an ulcer with the persistent use of lactic acid and the curette, usually, but it is not a cure of the laryngeal trouble, for it recurs somewhere in the larynx. The most hope of absolute cure may be entertained where the lung process has stopped definitely.

DR. H. H. BRIGGS—Of course, in the strictest sense of the word, I believe no case is cured. But with close observation and control of every detail one may enable a patient to live almost indefinitely—at least in many cases, for a number of years. In such cases there usually remains cicatricial tissue, tumefaction or tuberculomata, which under lowered vitality and unfavorable conditions may break down.

Dietetics.—The feeding of patients is really as important, if not more important, than the drugging; yet the majority of medical students have to learn their dietetics in the school of bitter experience. The physician must utilize better the so-called forces of nature, and see to it that all the details of the patient's food and environment work for recovery.—*Jour. Kan. Med. Society.*

THE VASOMOTOR SYSTEM OF THE PULP.*

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CHICAGO.

In 1733 Stephen Hales¹ first published the idea that small arteries changed their caliber. He devised the following ingenious experiment: Tying a brass tube into the aorta of a dog and employing a head pressure equal to the normal aortic tension he injected water and measured the outflow per minute from the divided vessels of the intestines. He found that cold water diminished the flow, while hot water increased it. He also showed (by the action of drugs) that one set of agents contracted the vessels and lessened the outflow, while another set widened the vessels and increased the flow.²

The chief dominating center of the non-striped muscles of the arterial system with motor nerves (vasomotor, vasoconstrictor, vasohypertonic) lies in the medulla oblongata. The nerves which pass to the blood vessels are known as the vasomotor nerves. Without mentioning the experiments which have been made, I might say, in a general way, stimulation of this nerve center causes contraction of all the arteries, resulting in great increase of the arterial blood pressure and swelling of the veins of the heart. Paralysis of this center causes relaxation and dilation of all the arteries, resulting in an enormous fall of the blood pressure.³

The sympathetic nerves consist of two chains of ganglia, one on each side of the spinal cord. Their function is to stimulate the viscera, glands, heart, blood vessels and unstriped muscles of the body generally.

There are four small ganglia⁴ connected with the fifth nerve: the ophthalmic, sphenopalatine, otic and submaxillary. Each has three roots derived from motor, sensory and sympathetic nerves, respectively, and varying members of branches of distribution. These cells are multipolar, thus resembling the cells of sympathetic ganglia and differing from those of the ganglia of the posterior spinal nerve roots and gasserian ganglion.

Each ganglion is a reddish-gray color, soft in consistency but enclosed in a strong fibrous sheath. It is connected above and below by an ascending and a descending trunk and with at least one spinal nerve by one or two communicating branches. Each ganglion distributes different branches which either directly or through the intervention of a secondary plexus supply blood vessels.

The second or superior maxillary division of the fifth pair of nerves gives off the posterior superior, middle superior and anterior superior dental nerves. These three nerves form a plexus and loops of filament which pass to the tips of the roots to form the dental pulp. The third division of the fifth, the inferior maxillary, a mixed sensory and motor nerve, enters the inferior dental canal, passing forward toward the symphysis menti supplying branches to the teeth and gums.

The gasserian ganglion receives filaments from the carotid plexus of the sympathetic. Connected with the fifth are the four small ganglia already mentioned which form the whole of the cephalic portion of the sympathetic. With the first division is connected the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

1. Statistical Essays, 1733, vol. xi.

2. A history of some of the experiments from this period to the present time may be found in Text-Book of Physiology of E. A. Schäfer.

3. Landois and Stirling: Human Physiology.

4. Gerish: Anatomy.

ophthalmic ganglion, with the second submaxillary ganglion. All the four receive sensitive filaments from the fifth, motor and sympathetic filaments from various sources. The ganglia are also connected with each other and the cervical portion of the sympathetic.

According to the "American Text-Book of Physiology," the vasomotor apparatus consists of three classes of nerve cells.⁵ The cell bodies of the first class lie in sympathetic ganglia, their neuraxons passing directly to the smooth muscles in the wall of the vessels; the second are situated at different levels in the cerebro-spinal axis, their neuraxons passing thence to the sympathetic ganglia by way of the spinal and cranial nerves; the third are placed in the bulb and control the second through inter-spinal and intercerebral paths. The nerve



Fig. 1.—Nerve fibers torn from main nerve trunk and entering the canal through the apical foramen. $\times 50$.

cells of the first class lie wholly without the cerebro-spinal axis, the third wholly within, while the second is partly within, partly without, and binds the remaining two together.

The vasomotor fibers for the face and mouth have been found in the cervical sympathetic by Dastre and Morat, leaving the cord⁶ in the second and fifth dental nerves and uniting (at least for the most part) with the trigeminus by passing, according to Morat,⁷ from the

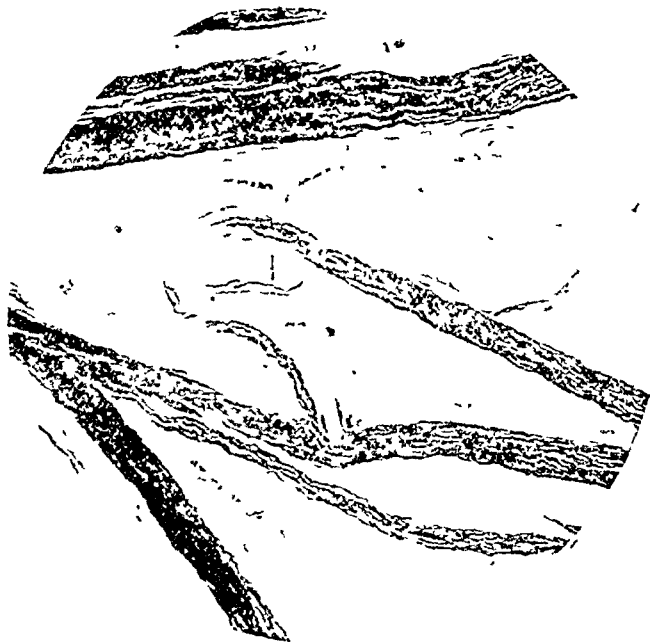


Fig. 2.—Bundles of nerves in the pulp showing vasomotor system. Nerve fibers encircling an artery showing terminals. $\times 50$.

superior cervical sympathetic ganglion to the ganglion of Gasser and thence to the fifth nerve. The nerves of the cerebrospinal system, with the exception of the olfactory, are medullated nerves.

The vasomotor nerves are axis cylinder processes of the sympathetic ganglion cells. They follow for a time the course of the corresponding spinal nerves. In-

termingled with the medullated fibers are always found gray or non-medullated fibers. According to Schafer,⁸ these fibers frequently branch; the medullated fibers rarely do except near their termination. The sympathetic nerves are largely made up of these fibers as they approach their peripheral distribution and possess a thin medullary sheath.

From what has been said it will be seen the intimate relation of the fifth nerve is as a motor nerve in mastication



Fig. 3.—Bundles of nerves in the pulp showing the vasomotor system. Crossing of nerve fibers from one bundle to another. These extend along and around blood vessels. Degeneration tissue at lower border. $\times 50$.

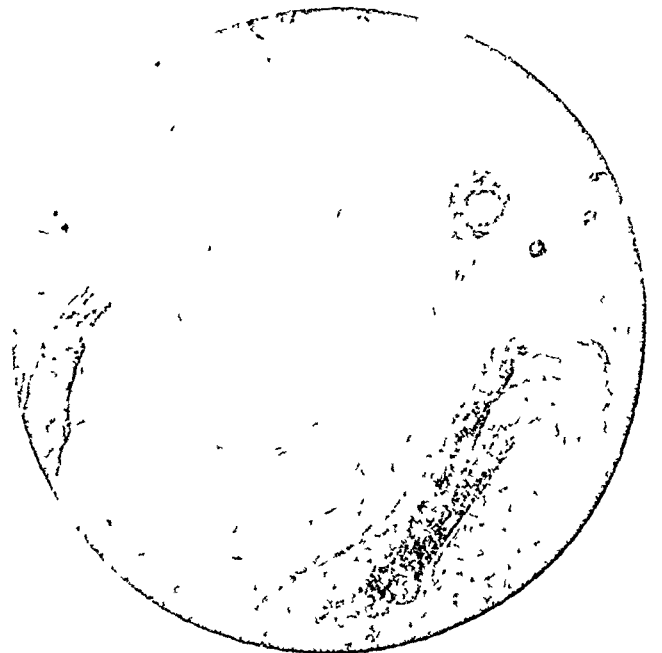


Fig. 4.—Bundles of nerves in pulp showing vasomotor system. Nerves around a crosscut artery. Y shaped artery in center showing terminals. $\times 50$.

tion and a sensory nerve to the great surface, both external and internal, which belongs to the face and the anterior part of the cranium. From its great size and the large portion of the medulla with which it is connected, there can be no question but that its sympathetic and vasomotor connection is established.

The nerve trunks as they pass through the lower jaw are made up of nerve fibers gathered together into bundles or funiculi, held together by connective tissue and

5. By "nerve cells" is meant the cell body, with all its processes, namely, the neuraxons or axis cylinder processes and dendrites or protoplasmic processes.

6. Dastre and Morat, 1884, pp. 116-120.

7. Morat, 1889, p. 201.

8. Essentials of Histology, p. 118.

called the perineurium. The connective tissue which nites a number of the bundles or funiculi is called pincurium. The cut ends under the microscope resemble very much the end of an ocean cable; the wires representing the nerve fibers, and the rubber covering the connective tissue sheaths.



Fig. 5.—Bundles of nerves in the pulp showing the vasomotor system. Five arteries with nerve fibers running lengthwise, also cross and long section of artery with nerve fiber around it. Thickening of arterial walls showing terminal nerve fibers. $\times 50$.

From this nerve trunk smaller medullated nerve fibers are given off at the nodes of Ranvier which pass up and into the apical foramina of the roots of the

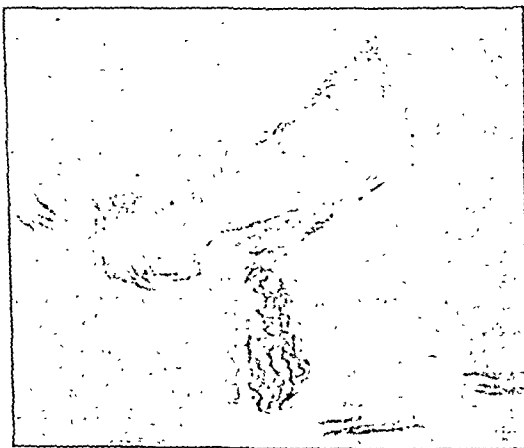


Fig. 6.—Bundles of nerves in pulp showing vasomotor system. Nerve extending along the arterial wall. At right angles may be seen the muscular coat of an artery filled with terminal nerve fibers. $\times 60$.

teeth. Sometimes there are two and again three or ten to twenty-five nerve fibers entering the foramina. The number depends on the size of the opening. In my paper last year on "The Evolution of the Pulp" I demonstrated that in animals whose teeth were in continuous eruption during the life of the animal the pulp was larger at the opening than in the pulp chamber. In ascending to man the second teeth have small openings, especially later in life. In the very nature of

things as the root calcifies, especially in exostosis, the openings grow smaller. The number of nerves entering the foramina, then, will depend on the size of the apical opening.

In a general way, the motor, sensory and the sympathetic nerves have been traced from their source to the roots of the upper and lower teeth. Text-books demonstrate the peripheral end organs to other structures of the body. In no case (to my knowledge) has

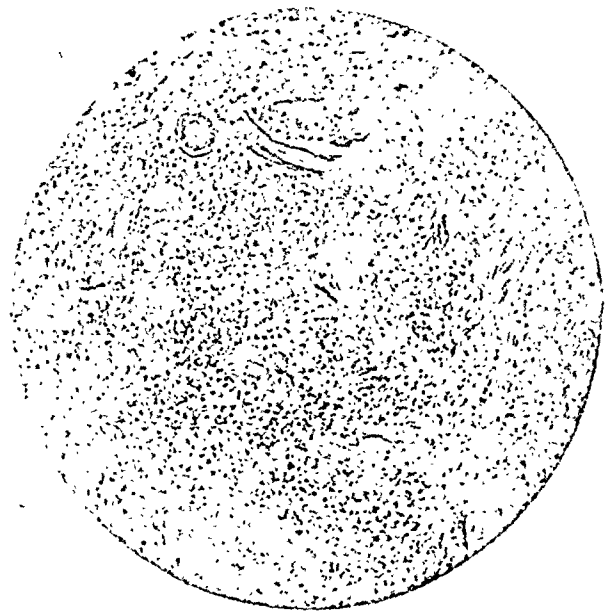


Fig. 7.—Bundles of nerves in pulp showing vasomotor system. Crosscut section showing ends of nerve fibers, also nerve encircling crosscut artery. $\times 25$.

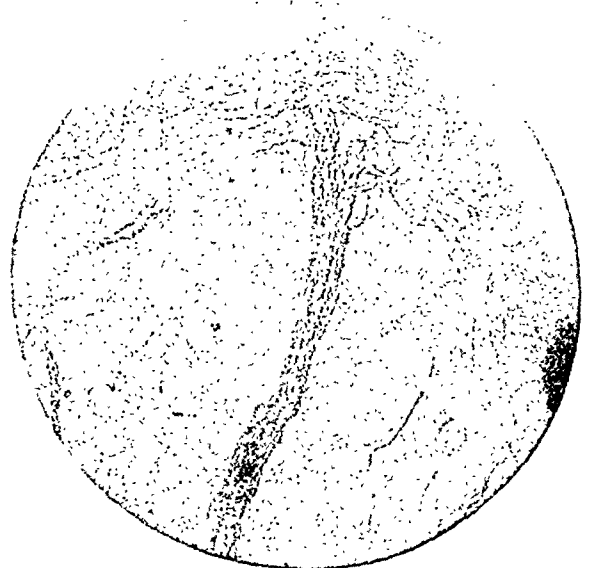


Fig. 8.—Bundles of nerves in the pulp showing the nervous system. These nerves extend to the odontoblastic layer. Small fibers running below and to the odontoblasts forming a nerve plexus. $\times 50$.

the character of the nerves of the pulp been demonstrated.

At the meeting of this Section last year Dr. Vida A. Latham, in a paper, "Résumé of the Histology of the Dental Pulp," showed the nerve supply to the pulp in different forms and also one illustration of the vasomotor system of the pulp. Part of our special work in the laboratory this year has been to demonstrate the character of the nerves of the pulp.

Pulp study has been conducted by Dr. Latham and myself in different laboratories for the past four years. For this work teeth have been collected each day to the number of over 4,000. These have been cracked open and over 2,000 specimens of pulps have been placed in different fluids ready for cutting, staining and mounting for the microscope. All the different methods of preparation of nerve tissue have been used as reported by Dr. Anderson in a paper, "Notes on Pulp Technic."

The nerve fibers, after leaving the main trunk in the jaw, evidently enter the apical foramina in single nerve bundles. In many cases, these nerve bundles continue the entire length of the pulp without branching. On the other hand, the branching in many cases begins after the trunk nerves have passed through the apical foramina. In Figure 1, when the tooth was extracted the pulp protruded from the end of the root, the opening being large. In this illustration the nerve fibers are shown from the inferior dental nerve extending through the apical foramina in the root canal of the tooth. These seem to run in a bundle or funiculi with the exception of one fiber which is isolated at the root. Figure 2 shows bundles of nerve fibers loosely arranged running in different directions. Between these bundles may be seen many single nerve fibers running in all directions. In the center of the field is an artery cut crosswise with terminal fibers encircling it two-thirds around. Figure 3 beautifully illustrates the vasomotor nerves in their relation to the blood vessels. The blood vessels and nerves run in the same direction. In the center of the field may be seen four arteries. Nerve fibers are notably running the entire length between, but they cross and recross at different localities. Nerve fibers in bundles and singly cover the entire field. Figure 4 shows bundles of fibers with many single fibers throughout the field. In the center may be seen an artery cut lengthwise branching in two directions. The most interesting of all, however, is an artery cut crosswise with vasomotor terminal nerves encircling it. Figure 5 demonstrates the vasomotor system more thoroughly. In the center of the field may be seen nine arteries cut lengthwise and one cut crosswise. Bundles of nerve fibers run between the arteries and along the arterial walls. Nerve fibers are seen crossing and recrossing the arterial walls, sometimes in bundles and again in single terminal fibers. In the cross-cut artery a nerve fiber may be seen almost encircling it. Figure 6 shows enlarged artery cut lengthwise, while just below it may be seen an artery running toward it at right angles. In this artery only the outer surface is seen. In both arterial coats terminal nerve fibers are well shown. Figure 7 shows the ends of the nerve cut crosswise. An artery may also be seen with a nerve encircling it. Figure 8 illustrates the crown end of the pulp with a bundle of nerve fibers which have extended intact the entire length of the pulp and is distributing its fibers throughout the odontoblastic layer.

In consideration that the blood vessels and nerves pass through the pulp in a wavy direction and not in straight lines, to have been able to obtain so many beautiful specimens showing so clearly and distinctly the vasomotor system is fortunate.

I am under obligations to Dr. Ludvig Hektoen for verifying these illustrations and to Dr. Martha Anderson for valuable services.

DISCUSSION.

DR. M. H. FLETCHER, Cincinnati—The nerve distribution of the pulp is a subject that has been greatly neglected, and it

is a matter of great pleasure to know that it has been taken up by such physicians as Drs. Talbot and Latham, because through these studies one may be able to find out why the pulp is so delicate in its tendency and recedes so easily from any attempt at investigation. The Doctor's work on the anatomy and distribution of the nerves about the vasomotor system will undoubtedly result in knowledge on points now obscure.

DR. T. E. CONSTANT, Scarborough, England—From clinical observation I have for some years been under the impression that the so-called odontoblasts have more to do with the vasomotor system than with dentinification. In my opinion, they have very little to do with the formation of dentin, excepting so far as regulating the blood pressure. They undoubtedly assist, but not in the direct manner in which most English dental anatomists have described.

DR. T. L. GILMER, Chicago—We are greatly indebted to Dr. Talbot for this work, and we must all be pleased with the success he has achieved. The facts are plainly shown by the photographs.

DR. G. F. EAMES, Boston—One can take clinical advantage of the idea Dr. Talbot has expressed. For instance, there is no place in the body where we can see the control of the nervous system over the tissues as much as in the nose. I believe that in many inflammatory conditions of the pulp we may control these conditions in proportion as we understand what treatment will influence the general nervous system. I have had a patient say: "When I am tired I have a pain in my tooth." I hardly realized at the time what that meant, but I can see now how exhaustion of the nervous system will so influence the control of the blood supply in that organ that it will be paralyzed and admit blood, and pain be caused. I can see also how in a subacute inflammatory condition a person whose nervous system has been exhausted may acquire a chronic state of inflammation in the pulp by these fibers being paralyzed, so that the blood vessels themselves become permanently stretched. Therefore these demonstrations have a clinical value.

DR. JULES J. SARRAZIN, New Orleans—I agree that the knowledge may be of great usefulness in a better understanding of physiologic pulp conditions. The paper reveals thorough research, but, in my opinion, we are not yet able to fully profit by the work, because we must arrive at a greater elucidation of the subject before the deductions which may be drawn therefrom may guide practical therapeutic application in the field of pathology.

DR. EUGENE S. TALBOT—Six years ago, it occurred to me that a symposium each year on the dental pulp would be a valuable contribution. About thirty years ago I realized that there were conditions that assisted in the decay of the teeth other than those brought out by Professor Miller. My studies in degeneracy in this country and Europe have taught me that in degenerates decay of the teeth takes place more rapidly than in healthy individuals. The same thing is true in families of four or five children where all but one child is healthy. The teeth of the degenerate child decay more rapidly than those of others. I am now taking up the study of the dental pulp or of the nervous phenomena in decay of the teeth. To bring out what has been done in regard to the pulp, men from abroad who are specialists along certain lines have been invited to read or send papers. They have advanced ideas on certain subjects, and while they may not agree with each of us, yet many new and original ideas have been brought out. Such papers create a good discussion, and assist greatly in elucidating facts. My paper to-day, as I have said, covers work of four years. Mr. Constant has rather anticipated me in the work I have now on hand, which, I think, will bring out certain points in relation to the teeth as suggested by him, and I shall present it very soon. Had I undertaken this work ten or fifteen years ago it would have been impossible to have shown the pictures I have, because modern stains have developed an idea of the terminal structures of the nervous system which was impossible years ago.

THE TREND OF GYNECOLOGIC WORK TO-DAY.

A. PALMER DUDLEY, M.D.

Professor of Gynecology, New York Post Graduate Medical School,
New York; Professor of Gynecology, Dartmouth Medical
College, Hanover, N. H.; Surgeon to Harlem Hospital.

NEW YORK.

(Concluded from p. 152.)

EDWARD J. ILL, NEWARK, N. J.

Total number of cases.....	66	Left tube removed.....	25
Left ovary diseased.....	31	Right tube removed.....	21
Right ovary diseased.....	28	Appendectomies.....	3
Left tube diseased.....	40	Herniotomy (femoral).....	1
Right tube diseased.....	33	Ventrosuspensions.....	20
Left ovary resected.....	13	Vaginal sections.....	2
Right ovary resected.....	14	Pregnancies.....	8
Left tube resected.....	14	Married.....	57
Right tube resected.....	6	Average age.....	30
Left ovary punctured.....	3	Recovered.....	35
Right ovary punctured.....	1	Improved.....	12
Left tube opened.....	4	Not improved.....	2
Right tube opened.....	4	Died.....	1
Left ovary removed.....	21	No report.....	16
Right ovary removed.....	17		

Dr. Ill's report shows most gratifying results, and his average of pregnancies reported (9 in 50 cases) compares favorably with my own.

JOS. E. JANVRIN, NEW YORK.

He quotes no statistics, but expresses a firm belief in the wisdom of preserving the function of menstruation as indispensable to the well-being of his patients.

CHAS. JEWETT, BROOKLYN.

Dr. Jewett, in a material of 62 cases of conservative surgery of the ovaries, etc., knows of but 3 cases of pregnancy occurring subsequently. He believes, especially in the case of young women, that any portion of the ovary which appears to be sound to the naked eye should be allowed to remain.

JOSEPH TABER JOHNSTON, WASHINGTON, D. C.

Dr. Johnston³ advocated the conservative treatment of the diseased ovary before the Southern Surgical and Gynecologic Association, Dec. 6, 1898.

MATTHEW D. MANN, BUFFALO, N. Y.

Dr. Mann has seen pregnancy follow where the ovaries seemed at the time to be hopelessly diseased; not so with the tubes, however.

W. P. MANTON, DETROIT, MICH.

Number of cases.....	28	Ovary punctured not stated	4
Married.....	22	Left tube resected.....	0
Single.....	6	Right tube resected.....	1
Left ovary diseased.....	13	Left ovary removed.....	2
Right ovary diseased.....	23	Right ovary removed.....	5
Ovary diseased, not stated..	4	Left tube removed.....	2
Left tube diseased.....	2	Right tube removed.....	4
Right tube diseased.....	5	Pregnancies.....	2
Left ovary resected or punctured	15	Cured or greatly improved,	3
Right ovary resected or punctured	20	all but 2 or.....	

Dr. Manton reports a most interesting case in which he found a third ovary embedded in the vaginal wall at the cervico-vaginal junction. The cysts in this third ovary were removed by vaginal section. In nearly every case reported other plastic work on the genital tract was performed.

His results with two or three exceptions were entirely satisfactory.

SIMON MARX, NEW YORK.

Dr. Marx writes of an interesting case of pregnancy after practically all ovarian tissue had been removed in two consecutive operations.

ROBERT T. MORRIS, NEW YORK.

Dr. Morris has sent me a valuable communication on conservative surgery of the ovary, but as he deals almost

exclusively with the question of implantation, I can hardly make use of it in this connection.

II. P. NEWMAN, CHICAGO.

Total number of cases.....	86	Required secondary intervention, per cent.....	20
Resection of ovaries.....	88	Pregnancies (3 abortions).....	8
Recovery, per cent.....	60	Suspension of uterus or ovaries, per cent.....	50
Improvement, per cent.....	20		

Although guarded in his opinion, Dr. Newman is in favor of conservative work, and his report shows most gratifying results.

RICHARD C. NORRIS, PHILADELPHIA.

Total number of cases....	42	Relieved by second operation, per cent.....	15
Controlled by statistics....	28	Unimproved, per cent.....	35
Symptomatic recovery, per cent.....	20	Pregnancies (in 10 cases).....	2
Improvement, per cent.....	30		

Dr. Norris has but recently read a paper on conservative surgery of the uterine appendages before the Lancaster County (Pa.) Medical Society. His experience in this field extends over some 8 years. The material is confined to hospital work.

Generally speaking, he is the most pessimistic of my correspondents in regard to conservative work. The results, he says, are often discouraging. There appears to be no definite relationship between the amount and character of intervention and the final result, which makes prognosis extremely difficult.

It must be borne in mind that Dr. Norris' views are based on a rather small material—28 cases.

C. D. PALMER, CINCINNATI.

Eighty-eight operations of bilateral oöphorectomy performed since June 30, 1899. All were hospital cases but 5.

Disease: Chronic catarrhal with some interstitial salpingitis, the vast majority of gonorrheal origin, a few only being septic.

Never operates on other than inflammatory cases.

Mortality 4 per cent.

Knows of no subsequent pregnancies.

In 3 cases menstruation persisted for some months and perhaps longer.

Abdominal section, usually preceded by curettage of uterus. Vaginal section in endometritis followed by salpingitis, but rarely did more than wash out cavity of lower peritoneum.

Dr. Palmer, in summing up the results of his work places himself on record as in favor of conserving the appendages, but insists that all the minor plastic work, including curettage of the uterus and even posterior vaginal section for drainage, should first be resorted to.

WILLIAM M. POLK, NEW YORK.

Dr. Polk has had experience with a very large number of conservative cases. According to his recollection, he has operated 273 times. In the absence of documentary evidence, his figures are not counted with the actual totals. He only knows of 5 cases of pregnancy. Most of his material consists of charity cases from Bellevue Hospital.

In 1886 Dr. Polk read a paper⁴ before the Society of Physicians and Pathologists at Washington in which the subject of conservatism was discussed.

M. F. PORTER, FORT WAYNE, IND.

Number of cases, over.....	50	Pregnancy.....	0
Resection or puncture of ovaries and tubes, per cent.....	100	Results satisfactory; better in ovarian work.....	

JOSEPH PRICE, PHILADELPHIA.

In a report of 100 cases of resection of the ovary it is stated that pregnancy followed in a good percentage of the cases. In some instances only a third or fourth

of the ovary was left. Dr. Price declines to resect the tubes, preferring to remove them entirely.

EDWARD REYNOLDS, BOSTON.

Total number of cases.....	8	Right tube resected.....	3
Left ovary diseased.....	3	Right tube punctured.....	1
Right ovary diseased.....	3	Left ovary removed.....	3
Ovary diseased not stated..	2	Ovary removed not stated..	1
Left tube diseased.....	6	Right ovary removed.....	3
Right tube diseased.....	6	Left tube removed.....	1
Ovaries resected.....	0	Right tube removed.....	2
One ovary punctured (not		Pregnancy.....	0
stated which).....	1	Recovery (data in 3 cases	
Left tube resected.....	5	only).....	3

Dr. Reynolds holds the record with us in this country as a successful operator in cesarean section. The report of his cases does not represent more than 10 per cent. of the work he has done, but it is evidence sufficient that he is a thorough believer in conservatism in appropriate cases.

E. C. SAVIDGE, NEW YORK.

Number of cases.....large		Pregnancies.....	4
Implantations (abdominal		Results, very gratifying in	
operations), per cent....	100	all respects but pregnancy.	

F. F. SIMPSON, PITTSBURG, PA.

Total number of cases.....	53	Right salpingostomy.....	3
Right salpingoöphorectomy..	11	Left salpingostomy.....	2
Left salpingoöphorectomy...	10	Ventrosuspension, etc.....	33
Right ovary resected.....	6	Pregnancies.....	5
Left ovary resected.....	7	Appendectomies.....	7

A. LAPTHORN SMITH, MONTREAL, CANADA.

Left ovary diseased.....	14	Right tube removed.....	12
Right ovary diseased.....	16	Ventrosuspensions.....	2
Left tube diseased.....	17	Results:	
Right tube diseased.....	14	Good.....	12
Left ovary exsected.....	3	Pregnancy.....	2
Right ovary exsected.....	10	Unsatisfactory.....	4
Left tube exsected.....	0	Unknown.....	1
Right tube exsected.....	1	Number of cases.....	17
Left ovary removed.....	9	Married.....	12
Right ovary removed.....	5	Single.....	5
Left tube removed.....	16	Average age, under.....	30

I. S. STONE, WASHINGTON, D. C.

Left ovary diseased.....	69	Ventrosuspensions.....	36
Right ovary diseased.....	69	Appendectomies.....	6
Left tube diseased.....	18	Pregnancy.....	1
Right tube diseased.....	31	Myomectomies.....	6
Left ovary exsected.....	12	Vaginal sections.....	3
Right ovary exsected.....	12	Vaginal suspension.....	1
Right ovary exsected.....	19	Hysterectomies.....	2
Left tube exsected.....	2	Cured.....	44
Right tube exsected.....	5	Relieved.....	40
Left ovary removed.....	26	Not relieved.....	1
Right ovary removed.....	29	Average age.....	23
Left tube removed.....	15	Married.....	53
Right tube removed.....	26	Single.....	32
Left ovary punctured.....	33	Number of cases.....	85
Right ovary punctured.....	24		

Dr. Stone is averse to doing conservative work on infected cases, but believes most emphatically in leaving any portion of healthy ovarian tissue in the young.

MAGNUS A. TATE, CINCINNATI.

Total number of cases.....	2	Right ovary resected or punc-	
Left ovary diseased.....	2	tured.....	1
Right ovary diseased.....	1	Ventrosuspension.....	1
Left ovary resected or punc-		Pregnancy.....	0
tured.....	2	Recoveries.....	2

JOHN F. THOMPSON, PORTLAND, ME.

Dr. Thompson reports one case in which both ovaries were cystic. The left was removed and the right resected. The woman subsequently became pregnant and gave birth to twins.

ALBERT VAN DER VEER, ALBANY, N. Y.

Ovarian surgery is much more satisfactory and attended with better results than tubal surgery.

H. N. VINEBERG, NEW YORK.

Total number of cases.....	106	Operation failed.....	10
Vaginal sections.....	34	Died.....	1
Laparotomies.....	72	Cured or much improved...	95
Pregnancies.....	12		

Dr. Vineberg's report evidences the fact that this work can be done per vagina with as good results as by the abdominal route, which leaves this question still open for discussion.

EDWIN WALKER, EVANSVILLE, IND.

Total number of cases.....	6	Right ovary removed.....	0
Left ovary diseased.....	5	Left tube removed.....	5
Right ovary diseased.....	5	Right tube removed.....	3
Left tube diseased.....	5	Ventrosuspension.....	1
Right tube diseased.....	5	Pregnancy.....	1
Left ovary resected.....	1	Average age.....	30
Right ovary resected.....	4	Cured.....	2
Left ovary punctured.....	1	Improved.....	1
Left tube resected.....	1	Not improved.....	1
Right tube resected.....	2	Too recent for results....	2
Left ovary removed.....	3	Married.....	6

T. J. WATKINS, CHICAGO.

He knows of several cases of pregnancy following ovarian surgery, but has kept no records.

J. H. CARSTENS, DETROIT, MICH.

Dr. Carstens of Detroit, although he did not give me statistics of his work, expressed his opinion in his characteristic and candid manner concerning this work. He agreed in the main with Dr. Wheaton, that in suitable cases it was wise to leave portions of the ovaries in position, in order to prevent as much as possible the reflex conditions that follow such work.

C. A. WHEATON, ST. PAUL, MINN.

Dr. Wheaton sums up the whole question in such a concise and straightforward manner that I desire to quote his letter in full:

I have before me your favor of Nov. 19, etc. . . . In our hands conservatism has proven a great boon to suffering femininity. I regret that our cases are not so classified that they can be of service to you. We have repeatedly made operations on the pelvic organs of the female, often removing the uterus and leaving the ovaries; often removing the tubes and leaving the ovaries and the uterus; often removing both tubes and leaving one ovary; often removing a tube on one side and an ovary on the other; often removing portions of ovary or tube, and I have yet to see the case in which I have regretted that sort of conservatism. It seems to me that the all-important question, independent of every other consideration, is the leaving ovarian tissue enough to preserve the sexual integrity of the woman. When I say "sexual integrity" I mean in its physiologic sense. A woman, deprived of her ovarian machinery, to my mind, is as much a defective as the eunuch, or the children born without any of the organs which go to make up the perfectly developed animal.

I regret that I am unable to give you a series of cases classified, but I have never kept a consecutive record of my work.

H. T. WILLIAMS, ROCHESTER, N. Y.

Total number of cases....	1250	Right ovary diseased.....	85
Available for statistics....	155	Left ovary diseased.....	60
Ventrosuspensions.....	52	Pregnancies.....	25
Appendectomies.....	30		

SUMMARY.

An analysis of the preceding tables gives the following results:

TOTAL NUMBER OF CASES.

Baker, Boston.....	1	Ill, Newark, N. J.....	66
Boldt, New York.....	82	Manton, Detroit.....	28
Brettaufer, New York.....	31	Marx, New York.....	1
Brothers, New York.....	50	Newman, Chicago.....	86
Burrage, Boston.....	187	Norris, Philadelphia.....	42
Clarke, Cambridge, Mass..	13	Palmer, Cincinnati.....	88
Coe, New York.....	5	Porter, Fort Wayne, Ind..	50
Cragin, New York.....	33	Price, Philadelphia.....	100
Cumston, Boston.....	47	Reynolds, Boston.....	8
Douglas, Nashville, Tenn..	30	Simpson, Pittsburg.....	53
Dudley, New York.....	269	Smith, Montreal, Canada..	17
Earnest, Atlanta, Ga.....	8	Stone, Washington, D. C..	85
Ferguson, Chicago.....	75	Tate, Cincinnati.....	2
Frederick, Buffalo.....	125	Thompson, Portland, Me..	1
Goffe, New York.....	115	Vineberg, New York.....	106
Goldspohn, Chicago.....	97	Walker, Evansville, Ind..	6
Gordon, Portland, Me.....	2	Williams, Rochester, N. Y.	155
Griffith, Kansas City, Mo..	4		
Humiston, Cleveland.....	5	Total.....	2168

This number could be considerably increased by including figures furnished from memory, etc., without proper documentation.

AVERAGE AGE.

In but few reports is the age recorded. From the statistics submitted by Boldt, Ill, Smith, Stone and

Walker, it appears that the average age of patients is slightly below 30 years.

MARRIED OR SINGLE.

Most reports are also defective in this respect. Out of 405 cases reported by Cragin, Dudley, Ill, Smith, Stone and Walker, 315 are known to have married—nearly 80 per cent.

LEFT OVARY DISEASED.

Boldt	32	Simpson	17
Brettauer	12	Smith	14
Cragin	26	Stone	69
Cumston	31	Tate	2
Dudley	204	Thompson	1
Ferguson	46	Walker	5
Frederick	65	Williams	60
Humiston	4	Palmer	88
Ill	34		
Manton	13	Total	722
Reynolds	3		

RIGHT OVARY DISEASED.

Boldt	33	Reynolds	3
Brettauer	11	Simpson	17
Cragin	27	Smith	16
Cumston	31	Stone	69
Dudley	188	Tate	1
Ferguson	23	Thompson	1
Frederick	48	Walker	5
Humiston	5	Williams	83
Ill	28		
Manton	23	Total	702
Palmer	88		

LEFT TUBE DISEASED.

Boldt	24	Manton	2
Brettauer	11	Reynolds	6
Cragin	32	Simpson	12
Dudley	59	Smith	17
Ferguson	22	Stone	18
Frederick	73	Walker	5
Humiston	1		
Ill	40	Total	322

RIGHT TUBE DISEASED.

Boldt	23	Manton	5
Brettauer	13	Reynolds	6
Cragin	29	Simpson	14
Dudley	53	Smith	14
Ferguson	17	Stone	31
Frederick	60	Walker	5
Humiston	5		
Ill	33	Total	308

LEFT OVARY REMOVED.

Brettauer	3	Palmer	88
Cragin	16	Reynolds	3
Dudley	41	Smith	9
Ferguson	20	Stone	26
Frederick	47	Thompson	1
Humiston	1	Walker	3
Ill	21		
Manton	2	Total	281
Conservative operations			370

Total operations on left ovary 651
 Conservative—Left, 370; right, 384 754
 Radical—Left, 281; right, 241 522

LEFT OVARY RESECTED (OR PUNCTURED).

Boldt	30	Manton	15
Brettauer	7	Simpson	7
Cragin	10	Smith	3
Cumston	31	Stone	45
Dudley	155	Tate	2
Ferguson	26	Walker	2
Frederick	18		
Humiston	3	Total	370
Ill	16		

RIGHT OVARY REMOVED.

Boldt	3	Manton	5
Brettauer	4	Palmer	88
Cragin	17	Reynolds	3
Dudley	26	Simpson	11
Ferguson	7	Smith	5
Frederick	25	Stone	25
Humiston	5		
Ill	17	Total	241
Conservative operations			384

Total 625

RIGHT OVARY RESECTED (OR PUNCTURED).

Boldt	29	Manton	20
Brettauer	7	Simpson	9
Cragin	10	Smith	10
Cumston	31	Stone	43
Dudley	171	Tate	1
Ferguson	16	Walker	4
Frederick	18		
Ill	15	Total	384

LEFT TUBE REMOVED.

Boldt	3	Reynolds	1
Brettauer	3	Simpson	10
Cragin	17	Smith	16
Dudley	27	Stone	15
Humiston	1	Walker	5
Ill	23		
Manton	2	Total	127
Conservative operations			96

Total operations on left tube 223

LEFT TUBE RESECTED (OR OPENED).

Boldt	20	Simpson	2
Brettauer	8	Stone	2
Cragin	16	Walker	1
Dudley	28		
Ill	14	Total	98
Reynolds	5		

RIGHT TUBE REMOVED.

Boldt	4	Reynolds	2
Brettauer	6	Simpson	11
Cragin	15	Smith	12
Dudley	26	Stone	26
Humiston	5	Walker	3
Ill	24		
Manton	4	Total	138
Conservative operations			83

Total on right side 221
 Conservative—Right, 83; left, 96 179
 Radical—Right, 127; left, 138 265

RIGHT TUBE REMOVED (OR OPENED).

Boldt	19	Simpson	3
Brettauer	7	Smith	1
Cragin	13	Stone	5
Dudley	22	Walker	2
Ill	6		
Manton	1	Total	83
Reynolds	4		

SUSPENSION OF UTERUS.

Boldt	82	7
Brettauer	31	2
Brothers	50	6
Dudley	244	99
Ferguson	69	22
Frederick	73	12
Griffith	4	4
Humiston	5	3
Ill	66	20
Simpson	53	33
Smith	17	2
Stone	85	36
Tate	2	1
Walker	6	1
Williams	155	52
Total	942	300

APPENDICECTOMIES.

Brettauer	31	1
Dudley	244	32
Ferguson	69	30
Frederick	73	8
Ill	66	3
Simpson	53	7
Stone	85	6
Williams	155	30
Total	776	117

In 776 cases reported by Brettauer, Dudley, Ferguson, Frederick, Ill, Simpson, Stone and Williams, appendicectomy was performed 117 times.

RESULTS.

Operator:	No. Cases.	Recovery or Marked Improvement.	Unimproved.	Died.
Boldt	82			0
Burrage	187	136		3
Clarke	13	13		0
Cragin	33			1
Cumston	37	37		0
Douglas	30			0
Earnest	8	7	1	0
Ill	50	47	2	1
Manton	23	25	3	0
Newman	86	69	17	0
Palmer	88			3
Reynolds	3	3		0
Smith	16	12	4	0
Stone	85	84	1	0
Tate	2	2		0
Vineberg	106	95	10	1
Walker	4	3	1	0
Total	858			9

ror on account of the suffering which they undergo whenever coitus is attempted. These patients are, of course, greatly relieved by the removal of those organs which have caused their suffering. Sometimes in such cases as these the sexual desire is greatly increased after an operation and this increase may continue for years.

In some women with a pronounced neurotic history there appears to develop after operations on the pelvic organs a periodical mania in which sexual fury is the pronounced symptom. In such cases there are periods in which the woman indulges in sexual excesses for days at a time, going clandestinely to houses of easy virtue for the purpose; and then there follows a period in which (very often of several weeks' duration) there is little or no sexual desire at all for them, to be followed in its turn by another period of sexual fury. These are cases of recurrent sexual mania, akin to recurrent attacks of dipsomania.

I would say this: that there is little doubt that the removal of the pelvic organs is very prone to induce degenerative cerebral changes in those who are predisposed by heredity to a neurosis. In other words, you take a woman who has a tendency to nervous disease in the family, and who is nervous herself, and that operation may induce paranoia, which might not have developed until the natural menopause at the age of fifty, or might not develop at all.

Reflexes.—In regard to the pain in the back, you can account for that by pressure on the nerve centers in the pelvis.

Constipation.—Simply in those cases where neurasthenia is produced.

Typical Symptoms of Neurasthenia Resulting from this Operation in the Case of a Patient.—Walks with difficulty on account of weakness and pain, the pain being located in both thighs. She has vertigo, insomnia, disagreeable dreams, depression of spirits, crying attacks, irritable, fretful and a feeling of pressure in the head, and headache; flatulency, dyspepsia and constipation. Now, these are typical symptoms. In a good many neurasthenic subjects there is a great degeneracy of mind because they think that people can tell they have had this operation done by looking at them, and they get depressed from that, avoid society and hate to go out. I have seen a number of such cases.

When we remove the testicles from the male, he becomes timid and loses his virility and courage; he becomes fat and gross; there is also a similar change in the animal. The horse has not the health, the virility or the courage of the stallion. Now, simply cutting off his toe would not make this change. There is something vital taken away from him, and the parts taken out constitute something that he especially requires.

With regard to hysterectomy, it is well-known that a woman on whom hysterectomy has been performed loses her sexual desire in about eighteen months therefrom, barring cases I have already mentioned. If it is possible to save the uterus, why not do it? If it is possible to save only half an ovary, save it. If it is possible to save only part of a tube, save it, provided that it is, or can be made, patent. If there is a fibroid in the uterus, remove the fibroid and leave the uterus, in selected cases. If there is a cyst in the ovary, remove the cyst and leave what healthy ovarian tissue you can. You know that this work can be done and that the resected ovary or tube will heal. If there is mild oozing of blood, the pelvic peritoneum will take care of it. This is conservative surgery. May it continue to develop in the future!

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THE CAPACITY OF A HUMAN MUSCLE FOR WORK.*

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HISTORICAL REVIEW.

Each year adds its share to the work that is being done by the different investigators in the study of muscular contractions, neuromuscular fatigue and the ability of a muscle to do work. To Mosso¹ must be given the credit of first making investigations with the human muscle. The instrument used by him in his work consisted in a weight and pulley. The muscular power obtained he expressed as weight multiplied by the dis-

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1. Mosso: Ueber die Gesetze der Ermüdung, *Archives für Physiologie*, 1890, p. 89.

tance through which it was raised. Maggiora,² Lombard,³ Treves,⁴ Cleghorn and Stewart,⁵ Storey⁶ and others continued investigations, introducing various modifications into the technic, thereby obtaining results of considerable value and interest.

Thus the original idea and the one followed more or less closely since has been to have the muscle raise and lower a weight successively through a given distance. It was found that a muscle can raise the weight at a regular rate until, as fatigue sets in, the height of the contraction becomes less and the movements become slower and more difficult. The amount which a muscle can do depends on the muscle and the technic used, the rapidity with which it contracts and the weight it has to lift. Among the objections that soon became evident are the following: (1) That the muscle after a short time becomes so fatigued that it can no longer lift the given weight. It can still exert a considerable amount of force, and if a lighter weight be used it can lift it. (2) It is found that only isotonic contractions are possible in the use of the weight ergograph, and that the muscle is under a continuous tension. (3) The greatest tension of the muscle is that required to overcome the inertia of the weight in starting it.

Others, thinking that with the use of the weight the muscle does not work to the greatest advantage, employed the spring. Cattell,⁷ Binet and Vaschide,⁸ Franz,⁹ Hough,¹⁰ Fick¹¹ and others have used this form quite extensively, but it has not replaced the use of the weight entirely. The advantages of the spring over the weight are the following: (1) The slightest movement made by the muscle can be recorded, whether it is of the isotonic or isometric form. (2) An interval of rest is allowed the muscle between the periods of relaxation and contraction. (3) The inertia is less pronounced. On the contrary, however, Franz¹² says that most of the objections which apply to the weight will also apply to the use of the spring. Thus it may be seen that the introduction of the isometric contraction, a condition not possible with the weight, has added interest to the study of action of a muscle.

GENERAL CRITIQUE.

In answer to the objections to the weight or spring ergograph, it has been mentioned that most of them are objections either to the mechanical construction which might easily be overcome, or to their use in particular problems. But no mention was made to the most serious fault of these methods, viz., that the muscle does not work under conditions which are physiologic. With the weight, the muscle is "loaded," having no interval of rest at any time, while with the spring it is "after-loaded." A large part of the energy expended by either the "loaded" or "after-loaded" muscle is not accounted

for, because it is expended either in the form of internal energy or as external work which can not be computed. The loaded muscle, on the one hand, becomes tetanized early, and though the weight tends to stretch it during relaxation and the rest period, the results of such experiments with muscle-nerve preparations of a frog make it evident that the muscle neither relaxes nor rests between contractions after the fatigue sets in. The after-loaded muscle, on the other hand, must be exerting a certain amount of energy in "casing" back the weight to its rest which would otherwise fall back under the influence of gravitation. The cycle of the former is contraction, relaxation with load and stretching. With the latter it is contraction, relaxation with load and rest.

Put in a practical way, the loaded muscle might be explained thus: Let a man lift a twenty-five-kilogram weight from the floor to the table, and without resting it on the table lower it to the floor; but before it touches the floor let him raise it again to the table and repeat until he is exhausted. At no time does he rest from his weight, and fatigue comes on quickly. If, however, in the interval between the lowering and the next lift the weight is allowed to rest on the floor for a few seconds, the muscle will have a chance to recuperate, and he will be able to do more work as the result. This is the condition with the after-loaded muscle.

But neither of these forms of work is used by the muscles in active life. Therefore, any results or conclusions obtained by them under these conditions would be of limited value. What seems to me to be a better form of work might be explained thus: Let a man lift a weight from the floor to the table and leave it there, reach down and lift another and continue. Work is being performed by him only with the lifting of the weight. During the remainder of the time the muscles are relaxed and resting for the following task. Its cycle in work would be contraction, relaxation without load and rest. The muscles expend little or no energy during relaxation and none at all during the rest period. Fick, by means of his *Arbeit-sammler*, has applied this method to the frog muscle. Broca and Richet¹³ have made a few experiments on the human muscle. Their work, however, has not been very extensive. Hall¹⁴ applied this idea of Fick to the human muscle independently of Broca and Richet.

The above criticisms may be summarized as follows:

(1) The various forms of the Mosso ergograph "load" the muscle and cause it to exert energy in some form constantly, while work is being accomplished part of the time only.

(2) The spring ergograph "after-loads" the muscle when used to record isotonic contractions and allows rest for the muscle between relaxation and contraction, but not during relaxation.

METHODS.

With a view of overcoming as many of the objections as possible and applying this method of work to the human muscle, Hall's work-adder was devised. A detailed account of the instrument is necessary, as no description of it has ever been made in literature. By it the muscle works only during the actual lifting of the weight. The troublesome inertia is lessened by having the weight made heavy and having it move so slowly that it follows

2. Maggiora: Ueber die Gesetze der Ermüdung. *Archives für Physiologie*, 1890, p. 191.

3. Lombard: Some of the Influences Which Effect the Power of Voluntary Muscular Contraction. *Jour. of Physiol.*, 1892, xiii, p. 1.

4. Treves: Sur les lois du travail musculaire. *Archiv ital. de Biol.*, 1898, xxx, p. 1.

5. Cleghorn and Stewart: Inhibition Time of a Voluntary Muscular Contraction. *Amer. Jour. of Physiol.*, 1901, v.

6. Storey: The Influence of Fatigue on the Contraction of Human Muscle. *Amer. Jour. of Physiol.*, 1903, viii, p. 355.

7. Cattell: *Science*, N. S., 1897, v, p. 909.

8. Binet and Vaschide: *Année psychologique*, 1898, iv, pp. 245, 253, 303.

9. Franz: Methods of Estimating the Force of Voluntary Contractions and on Fatigue. *Amer. Jour. of Physiol.*, 1901, iv, p. 348.

10. Hough: Ergographic Studies in Neuro-Muscular Fatigue. *Amer. Jour. of Physiol.*, 1901, v, p. 240.

11. Fick: *Pflüger's Archiv für Physiologie*, vol. xii, p. 176.

12. Cf. p. 353.

13. Broca and Richet: *Expériences ergographiques pour mesurer la puissance maximum d'un muscle en régime régulier*. *Acad. of Sci. Comptes Rendus*, 1898, p. 356.

14. Hall: A New Form of Ergograph. *Amer. Jour. of Physiol.*, vi. append. xxiii.

the action of the finger very closely. Variations are allowed in the size of the weight by changing the leverage.

The objection may be raised that if the weight is of such large size, the finger, when nearly exhausted, will fail to move it, and there will be no record of the energy spent. But that the muscle may work to the full extent, a heavy weight is necessary. There are two kinds of work: (1) One in which the task is very great for that muscle and requires relatively an immense amount of energy to be expended with every effort put forth. This method can last for a short time only when exhaustion follows and a rest is necessary. (2) The other form is that in which the task is considerably below the working capacity of that muscle, and a relatively smaller amount of energy is put forth. The latter can be continued for a much longer time without fatigue neces-

greater than that to keep it going. This is true of every task and is not a valid objection if taken of every day's work. Every object that a laborer lifts requires a greater expenditure of energy to start it than to keep it going. When the task is too great for him, he gets no credit for his work, but he still has energy sufficient for a task that is within his strength. The same principle should be applied to the individual muscle. Hough¹⁵ admitted that "the work of our muscle consists for the greater part . . . in a series of liftings of an approximately constant weight and that this weight is far below the maximum for a given muscle," and also says: "It would be a serious mistake to abandon altogether this type of instrument," viz.: weight ergograph in fatigue experiments.

It is true that the muscle under normal physiologic conditions is neither loaded nor after-loaded, as these terms are usually understood. It is not under a constant tension as when it contracts isotonicly; it varies its length, differing from the muscle contracting isometrically. "During normal physiologic conditions a muscle does not contract isotonicly, but always with a change of tension."¹⁶ Expressed affirmatively, the working muscle expends energy only while it is lifting the weight; it varies its tension and rests between lifts. I have chosen to call a contraction under these conditions "normotonic."

THE WORK-ADDER.

One of the ergographs used in these experiments consists of a weight and a movable pulley suspended by a fine wire (Fig. 1). The two ends of this wire are wound in opposite directions on two drums (*a* and *b*) of different sizes. These drums are fixed on the same movable axis (*o*), and any movement will wind up the wire on one drum while it unwinds from the other. A ratchet (*r*) prevents any turning except in the direction which winds it on the larger drum, thus raising the weight. A pulling lever (*ol*) also rotates freely about the same axis (*o*), and by means of a ratchet (*s*) revolves the drum in the direction which raises the weight. The pulling lever then returns by the aid of a weak spring, with the finger, to its original position and is ready for the next pull. Complete rest is thus obtained for the muscle while it is not actively pulling. The heavy weight with the drums overcome, to a great extent at least, the inertia. The system of levers reduces the actual weight raised to within the power of the contracting muscle and allows for variation in its size.

The leverages are explained thus, as shown in Figure 1: The small drum (*oa*) has a radius of 18 mm. and the larger (*ob*) a radius of 30 mm. Each end of the wire (*c* and *d*), wound on these, supports one-half of the weight or 12.5 kgs. The drums act as levers of different lengths, and as each is supporting 12.5 kgs., the tendency is for the wire around the larger drum to unwind because of the longer weight arm. This movement is prevented by the ratchet (*r*). The exact amount of downward pressure to balance the 12.5 kgs. on (*oa*) is shown by the proportion, $30:18::12.5:x$, or 7.5 kgs. But there is a weight of 12.5 kgs. hanging on the lever (*ob*). Therefore, the ratchet is sustaining the difference between 12.5 kgs. and 7.5 kgs., or 5 kgs., and before the weight can be raised this must be overcome. To further reduce this weight of 5 kgs. the pulling lever is used. The power arm (*ol*), which may be varied at will, is 60 mm. long, and the weight arm (*ob*) is 30 mm. long,

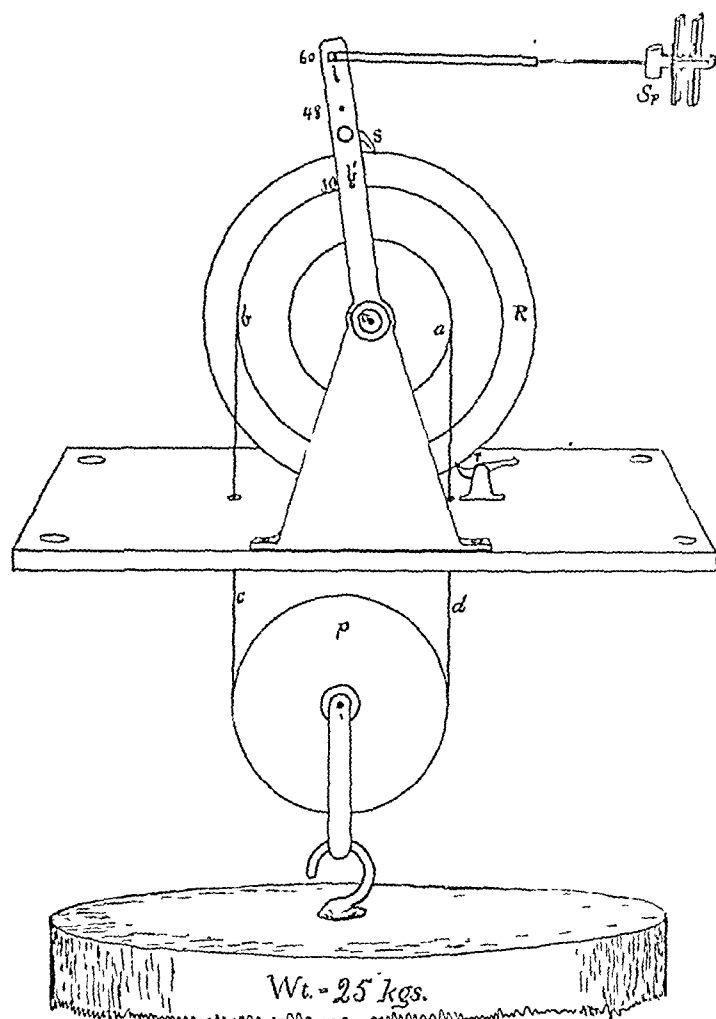


Fig. 1.—Diagram of work-adder. *a*, Small drum, 36 mm. in diameter; *b*, large drum, 60 mm. in diameter; *cd*, wire winding off drum *a*, around pulley *p*, and on to drum *b*; *r*, ratchet wheel, fixed immovably to both drums (this wheel has a toothed edge not shown in the figure); *sp*, finger splint or boot, which clamps the two terminal phalanges of the middle finger; *r-s*, ratchets (*r* fixed and *s* movable); *l*, the lifting or pulling lever, here set to lift at 60 mm. from the center *o*, thus lifting one-tenth of the weight, 25 kgs., as explained in the text. The splint may be attached to the lever at 48 mm. or at 30 mm.; in the latter case the amount lifted by the finger would be 5 kgs., or 11 pounds. Figure is one-half actual size.

sarily following. Very different results follow the use of these two methods, and the distinction must be recognized when an interpretation of them is to be made. Some have failed to note this difference and considerable confusion has been the result. The formula—distance times weight—expresses accurately the amount of work a muscle can do if the conditions of the muscle itself and those under which it works are taken into account. Another objection is that the energy expended in starting the weights is

15. Cf. pp. 242 to 245.

16. Schneck and Gruber: Human Physiology, p. 188.

the proportion being 60:30::5:x, or 2.5 kgs. Then the actual force necessary to raise 25 kgs. by this instrument is a force in excess of 2.5 kgs. pulling at the distal end of the pulling lever (I).

The arm rest consists of a slanting board modeled at the end to fit the hand. That the middle finger might have free movement, a notch was cut in the board. Straps hold the arm, hand and fingers in place. The first, third and fourth fingers are bent over the end of the rest and held in the partly flexed position by the straps. This allows the contracting muscle to pull the working finger toward the position held by the others instead of away from it and gives an easier movement.

This instrument fulfills the requirement (1) that the muscle works only when pulling the weight upward; (2) that the tension varies; (3) that the inertia be reduced and (4) that the muscle be neither loaded nor after-loaded. But the mechanical construction is at fault since the heavy weight after being raised to a distance of 50 cm. must be lowered again before the work can be continued again, thus allowing a rest for the muscle. Therefore, while it is suitable for ordinary fatigue work, it is not adapted to recording continuous efforts. That the experiments might continue with the same idea in view, another instrument of different mechanical construction, but involving the same principles, was made and substituted. Its construction and methods of work will be given.

THE AIR CUSHION.

The essentials of this instrument consist in an upright cylinder (see Fig. 2, c) closed at the lower end except for a large inlet valve (a) and at the upper end by a very thin sheet of dentist's rubber dam loosely stretched across it. A stopcock (b) is placed in one side of the cylinder. The weight while resting on the rubber sheet is not supported by it, but by a small metal bar (d) which strikes the frame. The action is as follows: As the weight is lifted from the cushion, air rushes in through the valve (a). When it is lowered, it strikes the rubber sheet and causes an increase of pressure within. This compressed air acts as a support until its slow escape through the stopcock (b) allows a return of the normal pressure within and the weight to be lowered, until it is caught by the metal bar. The rapidity with which it is lowered is regulated by the size of the opening made by turning the stopcock.

A wire extends from the weight up to an elbow lever (I) fixed at the end of the arm rest, and another extends horizontally from this to the finger where it is attached by an adjustable metal splint or boot (sp). The tracing lever records the actual movement of the finger on the drum (D). The size of the weight is easily changed by varying the length of the two arms of the elbow lever. The arm rest used was similar to the one described with the work-adder.

A PACE FOR THE WORKING MUSCLE.

In previous ergographic work much attention has been paid to the character of the individual tracing and to the production of fatigue. In general, not over one hundred contractions were necessary to bring on this fatigue. But very little study has been made to ascertain under what conditions a muscle can continue to work for a long period of time. In 1890, Maggiora² found that he could contract the middle finger of his left hand continuously at the rate of one contraction in two seconds against a weight of 1 kg. He concluded from his experiments that there exists for the human muscle a definite weight with which one can perform

the greatest possible work. When the weight or the rate of contraction is increased, fatigue will occur. He also found that this maximum of work varies with different persons at the same time and the same muscle at different times. Lombard³ contracted the abductor indicis muscle about 9,000 times, or for two and one-half hours, at the rate of once a second against a weight of 500 gms., reaching about the same conclusions as Maggiora. Both of these investigators used the weight ergograph which loaded the muscle and did not allow the muscle to work to the greatest advantage. Maggiora flexed the entire finger while the hand was in the supine position. Neither seems to have tried to compute the amount of work done by these muscles.

Fick¹⁷ found that, using a heavy weight, about one-fourth of the total energy expended by a muscle is used in lifting it and the remainder is changed into heat, electricity, etc.; while with a light weight, only about

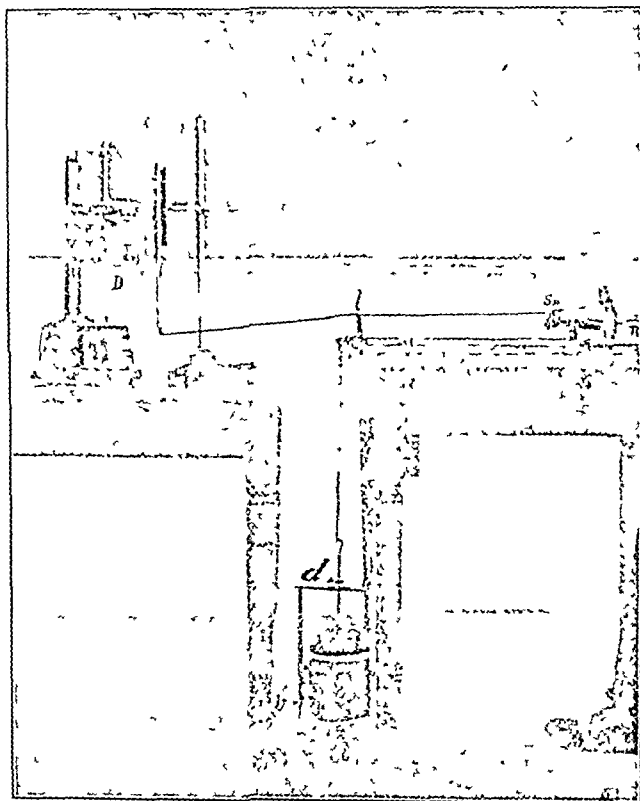


Fig. 2—Ergograph with air cushion. C, cylinder, about 10 cm. in diameter, having a large valve (a) opening from below; b, stopcock through which the air escapes on descent of the weight, the rate at which it escapes is regulated by the stopcock; d, metal bar soldered to the weight rod, this bar strikes the cylinder frame and serves to support the weight between contractions; I, elbow lever, so constructed that the two arms may be varied in length by hooking the weight cord or the power cord into different holes; Sp, finger splint; R, arm rest; D, drum of kymograph.

one-twentieth is spent as external work. That there is so much loss of energy is due, I think, to the fact that the muscle does not work to the greatest advantage. While some attempts have been made to improve the condition under which the muscle works, sufficient data have not been tabulated to show the true value of these changes.

The results given here were obtained principally on the air cushion. That the muscle might be in training, as Hough¹⁸ has shown is necessary for the best results,

¹⁷ Fick. *Pflüger's Archives*, 1878, xvi, p. 85.

¹⁸ Hough: *Ergographic Studies in Muscular Soreness*, *Amer. Jour. of Physiol.*, 1902, vii, p. 76.

the experiments were continued over a period of two months in the spring of 1902 and about three months in the spring of 1903. Tracings were made at least every other day. While the experiment was being made, the subject sat at a table with the right arm and hand fastened in a prone position to the rest. Different weights were used, the rule being to increase them as the finger becomes accustomed to the work. At first the muscle became tired very quickly, but after a few weeks it gained in power and could use the heavier weights at a faster rate of contraction. The rhythm was usually a matter of choice and was influenced largely by the object in view. While many found that they could bring on fatigue within one-hundred contractions at the rate of one contraction every two seconds, I found that I could go at a much faster rate and continue a very much longer time without fatigue necessarily following. The height of the contractions remained practically the same, varying from 1 cm. to 1.5 cm. in height. Throughout the experiments care was taken to keep the nutrition of the finger and muscle as nearly normal as possible. No attempt was made to compute the friction, which was comparatively small. Tension on the muscle was present only during the lifting of the weight.

The following table shows some of the results obtained:

TABLE 1.

Date.	Time of Day.	Duration of Experiment, hrs.-min.	Weight in Kilograms.	Contractions per Second.	Average Height of Contractions in cm.	Number of Contractions.	Kilogram-meters of Work Done.
A.—RESULTS OBTAINED ON THE WORK-ADDER IN SPRING OF 1902.							
May 8, 1902....	8:12 a. m.	3:47	2.5	1	2.2	11,370	*625.35
May 10, 1902....	8:45 a. m.	3:23	2.5	1	2.15	10,180	*547.175
May 10, 1902....	1:30 p. m.	2:58	2.5	1	2.2	8,930	*479.987
B.—RESULTS OBTAINED ON AIR-CUSHION IN SPRING OF 1903.							
March 28, 1903...	2:15 p. m.	3:30	2.5	1	1.1	12,600	*346.5
March 31, 1903...	10:20 a. m.	1:00	2.5	2	1.1	7,200	*198.
April 1, 1903....	8:15 a. m.	2:30	3 1/3	2	1.1	18,000	†660. (?)
April 2, 1903....	3:30 p. m.	0:42	5	2	(?)	5,040	†.....
April 4, 1903....	8:20 a. m.	3:40	3 1/3	2	1.1	26,400	*968.

* No fatigue. † Some irregularity. ‡ Tracing irregular after 9 minutes; fatigue in 42 minutes.

Part A of Table 1 shows the results of the experiments on the work-adder. The longest single experiment was made May 8, and lasted for a period of three hours and forty-seven minutes, during which time over 11,000 contractions were made, and about 625 kilogram-meters of work accomplished. May 10 two tests were made with an interval of one hour and thirty minutes. The work done that day amounted to over 1,000 kilogram-meters. No fatigue other than a general body weariness was experienced after these experiments, and the height of the contraction remained very constant throughout each experiment. But the experiments were not above criticism, as there was some movement of the whole finger, and intervals of rest were made necessary when the weight was lowered.

Part B of Table 1 shows the work accomplished on the air cushion. March 28 I made 12,600 contractions in three and one-half hours. The rate was one contraction every second against a weight of two and one-half kgs. The average height of each of the tracings was 1.1 cm. and the total work accomplished 346.5 kilogram-meters. No fatigue occurred. On April 1, the rate of contractions was changed to 2 per second and the weight to 3 1/3 kgs. It was thought that this would bring

fatigue; but to my surprise, after some irregularity in the tracing, the height of the contractions became more even and no fatigue was produced in two and one-half hours. The next tracing was made at the rate of two contractions a second with a 5-kg. weight. The tracing was regular for nine minutes, then varied considerably in height until fatigue (a failure to move the weight) came on at the end of forty-two minutes.

On April 4 the weight was changed back to 3 1/3 kgs., and with the same rate 26,400 contractions were made in three hours and forty minutes. The contractions varied between 1 and 1.4 cm., with an average of about 1.1 cm. Not over twenty-five strokes were lost during the entire time, and the wide variations to be expected from weariness or disturbances were surprisingly absent. No fatigue occurred except a general weariness of the whole body, which lasted during the remainder of the day. The weariness did not stop the work of the experiment, however. The total amount of work was over 968 kilogram-meters.

Comparing this last tracing with that of April 2, it will be seen that the heaviest weight that this muscle can lift continuously, contracting twice a second, is between 3 1/3 and 5 kgs. No similar amount of work has, to my knowledge, been recorded previously by a single muscle. This apparent increase of ability must be due, in a great measure, to the more advantageous conditions under which the muscle is working. Just how long this work could have continued I will not venture to say definitely, but the fact that I could keep up this pace for three hours and forty minutes without fatigue of the muscle following would justify the conclusion that the muscle could have done more. It is evident in the above experiment that the muscle had sufficient rest after each contraction to recover from the effects of that contraction. Had this not been the case fatigue would have been the result, as it had been with the use of the 5-kg. weight.

Since so many factors enter in to modify the conditions, it is not to be expected that the results will be the same in each experiment; but with the conditions sufficiently favorable it may be concluded that a muscle is able to do a day's work of eight or ten hours' duration.

FATIGUE.

Mosso,¹ Lombard,³ Maggiora² and others found that the muscle became tired and could not lift a given weight after from 50 to 100 contractions, the rate being once a second. With them, the amount of work, as well as the extent of movement, decreased as fatigue was approached. Franz¹⁹ found that with the spring he could contract 150 times and still do about 40 per cent. as much work as at the beginning of the series. During the present experiments the muscle was fatigued several times and it always gave results far in excess of those obtained by these men. The muscle did not become fatigued within a period of three hours and forty minutes when it raised a 3 1/3-kg. weight twice a second. On April 2 the muscle became fatigued in forty-two minutes after having made over 5,000 contractions against a 5-kg. weight, lifting it twice a second. After a lapse of about four weeks, it made nearly 4,000 contractions under the same conditions.

That I might find a cause for this great difference in ability, I made a few experiments with the Mosso form of ergograph. Table 2 shows some of the results as compared with those taken with the air cushion:

TABLE 2.

Date. 1903.	Length of Contraction in Minutes.	Weight Used.	Contractions per Second.	Number of Con- tractions to Fatigue.	Results.
RESULTS WITH AIR-CUSHION.					
April 2	42	5	12	5,040	fatigue
April 4	220	3 1/3	12	26,400	no fatigue
April 29	33	5	12	3,960	fatigue
RESULTS WITHOUT AIR-CUSHION.					
April 5	22	3 1/3	12	2,640	fatigue
April 16	24	3 1/3	12	2,880	fatigue
April 29	1.08	5	12	135	fatigue

These tracings compare the time and work necessary to produce fatigue when the air cushion is used and without it.

These results do not agree with those obtained by the previous investigators. With a weight of 3 1/3 kgs. twice a second, there was no fatigue until 2,640, and in another 2,880, contractions had been made. At another time the muscle, contracting every half second, raised a weight of 5 kgs. 135 times before fatigue was produced.

The question arises, why there should be such a difference in the amount of work necessary to produce fatigue? The individual variations of the muscles would easily explain small differences, but would not suffice here. The muscle that I used was below the average in strength before the experiments began, and the time over which the experiments extended would scarcely allow such great increase in power. The difference which exists between the tracings made with the air cushion and those with the Mosso form of ergograph can be explained to a great extent by the conditions under which the muscle was working. The other is evidently the result of the endurance which the muscle gained by working many times over an extended period.

RECOVERY AFTER FATIGUE.

It was also noticed that the periods of recovery after fatigue had been reached were very much longer when the air cushion was used, than when the Mosso form of ergograph was used. The average number of contractions in the recoveries of an experiment lasting one hour and forty minutes was eighty-five, and the average intervals of absolute fatigue was fifty seconds, varying in length from 2 to 10 cm. The weight used was 5 kgs., raised every one-half second. There was no regularity in the length of the recoveries, while the intervals of loss of power had a tendency to become longer as the experiment was continued. For a detailed discussion of this subject the reader is referred to the work of Lombard.²⁰

SUMMARY.

1. A muscle working under normal physiologic conditions is neither "loaded" nor "after-loaded."
2. A muscle will not contract isotonicly nor isometrically under normal physiologic conditions.
3. When a Mosso or a spring ergograph is used, a large part of the energy expended by a muscle during a period of work is lost. This loss occurs in easing back the weight or the spring to its position of rest or to the zero point.
4. A recognition of the conditions under which a muscle works and the end to be attained is necessary

when an interpretation of ergographic results is to be made.

5. A normal muscular contraction ("normotonic") consists in contraction, relaxation without load, rest.

6. A new form of weight ergograph has been devised which allows the human muscle to work at a greater advantage than that given by any previous form of ergograph, because it permits "normotonic" contractions.

7. A human muscle is capable of doing a far greater amount of work by the use of the new ergograph than has been previously shown in ergographic work.

8. A muscle can work over periods of long duration without fatigue when the conditions are favorable.

9. These experiments confirm the conclusion stated by Maggiora that there is a definite weight with which one can perform the greatest possible work.

10. The physiologic limit of a muscle for continuous work is modified by the rate, load and interval, or by rest and work.

DYSTOCIA CAUSED BY DOUBLE CONGENITAL CYSTIC KIDNEYS IN THE NEW-BORN:

A CONTRIBUTION TO THE STUDY OF CONGENITAL CYSTIC KIDNEY.

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WASHINGTON, D. C.

Spiegelberg, in his well-known "Midwifery," vol. ii, p. 169, speaking of the causes of difficult labor produced by anomalies of the fetus and appendages, says: "The various causes which lead to the enlargement of the abdomen of the fetus are the following:

- "1. An accumulation of serum.
- "2. The distention of the urinary organs with urine, both bladder and ureters.
- "3. Cystic degeneration of the kidneys.
- "4. Distention of the uterus with fluid.
- "5. Tumors of the liver, spleen, testicle in the abdomen.
- "6. Aneurism of the aorta.
- "7. A condition in which one fetus is included in another."

Under the third of these headings, viz., cystic degeneration of the kidneys, I wish to report a case of dystocia which recently occurred in my practice:

Mrs. X., aged 20, primipara, healthy, and pelvis normal, came into labor early in the morning of January 19. In the beginning the pains were of normal character and continued increasing in strength and frequency during the day and evening. Dilatation of the os was very slow. A breech presentation was easily diagnosed. The pain steadily increasing and becoming progressively harder and the os not opening proportionately, it was decided at 11 p. m. to anesthetize and deliver. Under ether there was no difficulty in dilating sufficiently to admit several fingers and grasp the feet. Traction brought the limbs well through the os, but the abdomen resisted all efforts. An examination cautiously made demonstrated some obstruction of a very considerable character in the abdomen, which was felt to be enormously swollen. By repeated and persistent traction, combined with careful manipulation, the trunk and after-coming head were eventually born, without resorting to any cutting or destructive operation. When born the child breathed a few times, not, however, emitting any cry, but very shortly breathing ceased.

The uterus contracted firmly after the discharge of a small quantity of blood, very dark in appearance. The recovery of the mother was uneventful. The conditions surrounding

²⁰ Lombard: The Effect of Fatigue on Voluntary Muscular Contractions, *Jour. of Psychol.*, 1890, vol. iii.

the case were of such a nature as to forbid a careful post-mortem examination. Permission, however, was granted to open the abdomen and learn something of the true condition.

The child, male, must have been very near full term, although it was claimed that it was only eight months. No deformity was visible in limbs or parts, beyond the unusually large fontanelles both anterior and posterior, these being far larger than is usually found in the new-born. It is worthy of note that the head in conditions similar to this so frequently hydrocephalic, was not in this instance abnormal. The attention was at once fixed on the abdomen, which was very prominent and greatly distended. I regret that lack of time and material forbade the exact measurements. In appearance, however, it was not unlike that frequently seen in malignant disease when ascites has caused an extreme distention of the abdominal walls. Palpation and percussion showed the presence within of a solid body or bodies, as the parts could be readily felt by the tips of the examining fingers, and percussion emitted the dull note of solid bodies. An incision was made through the abdominal walls in the median line. Only a small quantity of fluid escaped. Inserting the hand in the line of the incision a solid mass was found to occupy the entire abdominal cavity, completely filling the pelvis and pushing

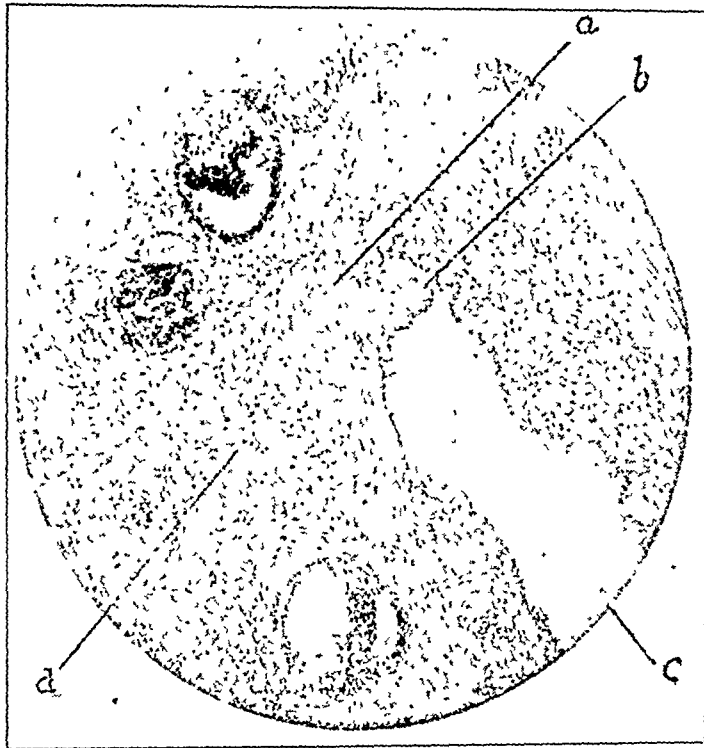


Fig. 1.—(x100.) a, Efferent vessel? b, Atrophied glomerulus. c, Cystic capsule of Bowman. d, Area of hemorrhage surrounding engorged vessels.

the liver and diaphragm high up in the thorax. Lying on the surface of the mass were the flat, ribbon-like intestines. Careful inspection showed that the mass was in reality two distinct bodies, both uniform in shape and consistency, meeting in the median line, forming a fissure. By exploration with the tips of the fingers it was found that the two tumors in question were in reality the two kidneys, far advanced in a state of cystic degeneration. The left was removed and is the specimen from which the accompanying microscopic slide was taken (Fig. 1). Very little of the original kidney structure remained. Stripping away the capsule the entire kidney—fully eight inches in length and four in width—was found to be filled with cysts, varying in size from a small pea to a good-sized marble. These cysts were filled with fluid, clear and serous in character. The ureters were found and a probe inserted proved them patulous for about three inches. Little or no examination could be made of the remaining viscera beyond the fact above mentioned, of the great upward displacement by compression of the liver, lungs, heart, etc. The kidney was submitted to Dr. James Carroll, assistant curator of the U. S. Army Medical Museum, who made a careful microscopic examination, the report of which is here quoted:

"The section resembles one of an adenocystoma or of the multilocular cystic degeneration that is seen occasionally, in the ovary. The stroma consists of a loose fibrous reticulum fairly rich in cells. These cells are, as a rule, slender spindles with oval nuclei; in the looser portions there are some multipolar and round cells with oval or spherical nuclei. There is marked infiltration of the stroma with red blood cells and here and there small and large hemorrhages. The vessels, as a rule, are small and engorged with blood. The cystic spaces are lined with a compact layer of stratified round epithelium and are surrounded by a dense wall of cellular connective tissue. In some instances this wall is of considerable thickness and very rich in cells. The surrounding stroma shows here and there small isolated groups of contorted tubular structures resembling glandular acini. They are not surrounded by capsules and their walls appear to consist of cuboidal epithelium. The lumina of the tubules are seen in cross section to be packed with similar cells whose nuclei stain rather poorly. These acinus-like bodies are at times surrounded by small hemorrhages, again by a number of polymorphonuclear leucocytes. The grouped arrangement of these structures and the character of the cells within them would lead one to suppose that they were uriniferous tubules, but on comparison with undoubted tufts within both the distended and non-distended Bowman's capsules it is clear that they are the remains of malpighian bodies whose capsules have merged with the surrounding fibrous tissue and disappeared. In other places the malpighian bodies appear to have undergone a different change; within some of the above described cystic spaces the remains of a tuft can be seen projecting from the thickened wall into the lumen. These tufts are covered by round or cuboidal epithelial cells similar to those lining the sac. The character of the epithelium is the same when the tufts and capsules are of approximately normal size as when the capsules have been distended to form cysts.

"The uriniferous tubules have almost entirely disappeared. One or two may be seen of considerable length, slightly enlarged and filled with low cuboidal or round epithelial cells. Their basement membranes have undergone enormous proliferated thickening, are very rich in cells and closely resemble the thickened capsules of Bowman already described.

"On the whole the general changes appear to be atrophy of the epithelial structures; marked connective tissue increase; hemorrhages and cystic dilatation of a number of the periglomerular capsules of Bowman. The cystic contents appear as an almost indistinguishable structureless material showing that the fluid contained but little albumin."

Cases of congenital cystic degeneration of the kidney have been reported at intervals. The affection, while definite in character, remains, however, among the rarer diseases of the renal bodies. It is especially rare as a cause of dystocia. In a few of the cases on record the enormous distention of the kidneys necessitated puncture of the abdominal walls and practical evisceration before delivery could be effected. Fussell¹ spoke of 11 cases in which the kidney obstruction was so great as to render mutilation imperative. In his case the abdomen measured 18 inches at the umbilicus, both kidneys enormously enlarged, the left 6x5 inches, the right 5x4 inches, both in original form, lobulated and the seat of cystic degeneration, the mass composed of a multitude of small cysts varying in size from a pea to a pin point. The suprarenal capsules were enlarged. The heart was much hypertrophied and about three times the normal size; ventricles small; walls of left ventricle $\frac{5}{8}$ inch thick, right $\frac{3}{8}$ inch; valves normal.

Frequently associated with congenital cystic kidney in the new-born are defects of development, hydrocephalus, cleft palate, hare-lip, spina bifida, anomalies and defects of the genito-urinary organs. Duffey² reports a case of

1. Medical News, January 10, 1891.

2. Medical Times and Gazette, London, Feb. 10, 1866.

this disease in which the fetus was of anencephalous variety, the uterus bifid. This co-association of cystic degeneration of the kidneys and anomalies of development has led to the theory, of which we will speak later, that the disease is one of defective development rather than a change brought about by pressure or inflammation, or both.

The etiology and pathology of this interesting condition still remain largely *sub judice*. Beginning with Virchow in the early 40's, who explained the formation of cysts as the result of uric acid infarcts—an opinion now abandoned—down to the present day, theories have not been wanting. Whether congenital cystic kidney is due to defective development (embryonic theory), to pressure and obstruction (mechanical theory), or pathologic changes of a more complicated nature (the inflammation theory) are questions which have never been satisfactorily answered. Regarding these three theories of causation, somewhere within which, in all probability, the truth lies, Hektoen, writing on the subject in a very exhaustive article,³ says:

1. The theory of retention and dilatation is based on cases in the new-born and old in which were demonstrated causes of obstruction at uriniferous tubules, papillæ, etc., including fibrinous casts, degenerated epithelium blood, precipitated salts. Virchow assumes a papillary atresia or stenosis due to fetal inflammation.

2. The theory of a cysto-adenomatous growth is based on the presence in cystic kidney of adenomata.

3. The embryonic or developmental theory which seems to explain many features otherwise unintelligible is based largely on the fact, so apparent in the majority of cases, of general abnormalities of development, as quoted in cases cited above. This idea, so clearly advocated by Shattuck and Bland-Sutton, is in brief essentially this, that the wolffian bodies and the kidneys, which in normal circumstances are distinct become blended, and through this failure of differentiation an abnormal kidney results with cystic formation as an accompaniment. This view is the one adopted by Osler and incorporated by him in his article on congenital kidney in the latest edition of his "Practice of Medicine." Rindfleisch ascribes the condition to a congenital atresia of the renal artery. Neuwerck, Hufschmid and Von Kahlen incline to the idea of adenocystoma. Fürbringer has the following: Congenital cystic degeneration (Virchow's *hydrops renalis cysticus congenitus*) is usually bilateral. According to researches its origin is generally to be found in the coalescence of the tubuli uriniferi, in obliteration of papillæ by embryonic nephritis, and in the production of uric acid infarcts. The obstruction may also be found in the urinary tract, as the condition may result from the atresia of the pelvis. Klebs assumes external mechanical influences, and Niebending attributes it to engorgement of the kidneys produced by the absence of the ductus Botalli.

It is obvious that the diagnosis of congenital cystic kidney can not be made early enough to be of any practical value to the obstetrician. Its occasional occurrence, however, should not be overlooked in those cases in which there is prolonged and unnatural resistance to the birth of the body. Careful examination demonstrating the abnormally distended condition and all other efforts failing to effect delivery, the physician is justified in puncturing the abdominal walls, passing his fingers through the opening and by the removal of the enlarged kidneys reducing the size of the child sufficiently to admit of its passage through the birth canal.

It not infrequently happens that cases of cystic kidney fail to go to term. Should, however, such a pregnancy survive to the full period of gestation, the child is still-

born or expires within a few minutes after birth. The causes of death are numerous. Asphyxia from compression of the lungs and diaphragm is the direct cause in a great majority of cases, particularly those in which there is great abdominal swelling, anuria, symptoms of anasarca, coma convulsions; tetanus and other uremic symptoms appear sooner or later, and death very rapidly supervenes.

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Clinical Reports.

AN EIGHTY-EIGHT POUND OVARIAN CYST SUCCESSFULLY REMOVED FROM A PATIENT SEVENTY-SEVEN YEARS OF AGE.

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DETROIT.

In these days of operative activity, ovarian tumors weighing more than fifty pounds are sufficiently uncommon to attract attention. The mortality of the operation being so small, and the zeal of the surgeons so great, we no longer see the enormous cysts, which in the earlier days were comparatively frequent.

There being several minor points in the following case, both in the physical signs and in the after-treatment, I feel justified in reporting it in full.

History.—Mrs. M. S. entered Johns Hopkins Hospital March 23, 1903. She was barely able to stand or walk alone on account of a large abdominal tumor, and the infirmity of her age, which was asserted by her companion to be 77 years. She was of Irish descent, illiterate, and had lived for many years in the slums of Baltimore.

Present Trouble.—As far as could be ascertained, for six years the abdomen had gradually increased in size, and for the past six months she had been in bed. She had suffered little real pain, but had complained of great respiratory distress and oppression on the slightest exertion. At times there had been considerable swelling of the ankles, but no urinary disturbance had been noticed. The appetite had been fairly good, and the bowels habitually constipated.

Examination.—She was much emaciated, the face deeply wrinkled, but presenting no suggestion of the ovarian facies; the skin over the whole body was deeply pigmented and brawny. The percussion note over the lungs was resonant, and the breath sounds were harsh, with râles at the end of expiration, which was everywhere prolonged and blowing. The heart sounds were sharp and clear. The temporal, facial, radial and tibial arteries were tortuous and much thickened, standing out as hard cords. Pulse, 80 to the minute, intermitting frequently and obliterated with difficulty, the pressure necessary being 175 mm. of mercury. The lower ribs, pushed upward

3. Chicago Medical Review, September, 1892.

4. Diseases of the Kidneys and Urinary Organs, vol. II, pp. 84-85.

by the enormously distended abdomen, formed an angle of nearly 45 degrees with the upper ribs. In dorsal decubitus the abdominal distention began at the sixth rib, rising gradually and forming a dome-shaped tumor, overhanging the symphysis. This tumor was tense on palpation, and presented a perfect percussion wave. The percussion note was flat, except high up on both sides, where there was modified tympany. On turning the patient from side to side, there was a suggestion of tympany, but no distinct movable dullness could be demonstrated. The circumference at the umbilicus measured 134 cm. (53 inches). The vaginal outlet was much relaxed and the bladder prolapsed. On account of the greatly distended and tense abdomen, a bimanual examination was impossible. The urine was dark yellow, cloudy, acid in reaction, and of a specific gravity of 1028. A trace of albumin was present, and the microscope revealed bacteria in large numbers, epithelial cells, phosphates and urates, but no casts. The hemoglobin, estimated with the von Fleischel instrument, was 55 per cent.

Operation.—As the patient seemed a poor subject for general anesthesia, March 25 I made a short median incision under cocain. This revealed a very thin cyst wall, purple in color, and quite firmly adherent to the parietal peritoneum over its anterior surface. The cyst was punctured and 38 liters of dark brown fluid evacuated. The cyst was practically uni-



locular, and was therefore readily and completely emptied. Attempted separation of the adhesions between the cyst wall and the parietal peritoneum was so painful that nitrous oxid gas was administered, and the two layers rapidly separated by wiping with a gauze sponge; here and there more dense adhesions, requiring the use of scissors or knife. The omentum, which was adherent to the cyst, was quickly tied off, and the latter delivered. Fortunately, there were no pelvic adhesions, and the very broad pedicle was readily clamped off, the tumor removed and the vessels ligated with silk and cat-gut. After covering in the stump, the abdomen was rapidly closed with through-and-through silkworm gut. A very small amount of ether was given, although the operation could have as well been concluded under nitrous oxid anesthesia alone. The patient was conscious before the last abdominal suture was tied.

Examination of the Tumor.—Investigation in the pathologic laboratory revealed a simple cystoma ovarii, lined by one layer of high columnar epithelium. The tumor and contents weighed 88 pounds.

Convalescence.—The lung condition seemed to be the greatest danger threatening the convalescence, as hypostatic congestion was greatly to be feared. With the hope of avoiding this the position of the patient was changed every two hours during the first forty-eight hours by alternately raising and lowering the head of the bed. Despite an extremely irregular and in-

termittent pulse, the convalescence was uninterrupted, and healing was perfect in every particular.

Comments.—The interesting points in the case are the age of the patient, the development of a large tumor from an organ long past physiologic activity, the ease with which the operation was done with but little general anesthetic, and the speedy convalescence, despite diseased arteries and an unfavorable condition of the lungs. Attention is especially called to the possibility of preventing serious pulmonary complications, by a frequent change in position. This is not a new procedure, but it has not been extensively employed, and seems worthy of emphasis. To be effective, one end of the bed should be elevated by chairs placed under the bedposts, the patient being supported from slipping by shoulder and perineal straps. The head should be alternately raised and lowered in this way every two hours. In aged patients, with poor circulation and edematous lungs, this method of preventing hypostatic congestion and subsequent pneumonia, would seem of value.

FATAL BROMOFORM POISONING.

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The facts of the following case were obtained by courtesy of the attending physician, Dr. C. A. Hurd.

Previous Illness.—A girl of 2 years and 9 months had been sick for about two weeks with whooping cough, with severe coughing and vomiting spells at frequent intervals day and night. Blood was vomited at times.

Treatment.—Belladonna and antipyrin had been given without much effect on the spasms. On the evening of July 21 the child was put on two-drop doses of bromoform every four hours with decided benefit, the patient sleeping comparatively undisturbed that night; the next day she was playing about the house and yard, with only an occasional attack.

Poisoning.—About 7 p. m. of the 22d the child went to a drawer, took out the bottle of bromoform and swallowed some of the contents. The burning sensation caused the child to scream, which attracted the attention of the mother, and she at once took the bottle away from the child. Some of the liquid had been spilled on the floor and on the child's dress. About half the contents of the 3-dram bottle remained.

Symptoms.—For several minutes the child seemed to be unaffected, but the mother attempted to telephone to town, about three miles distant, for a physician, and the telephone failing to work she called the child's father. By that time the child began to show signs of drowsiness. As soon as a team could be made ready they drove to town with the child, who was then apparently lifeless or in a condition of deep narcosis. They reached Dr. Hurd's Hospital about 8:30 p. m. No pulsation could be detected at the wrist or carotids and no sound of heart action was at any time to be detected.

Treatment.—Strychnia and whisky were injected hypodermically, the stomach washed out, the head lowered and artificial respiration begun. The only encouraging symptoms were occasional spasmodic gasping attempts to breathe. The breath smelled strongly of bromoform. The pupils were widely dilated. There was no cyanosis until after about three hours, when the body began to get cold and the lips and fingernails blue. It was not until then that artificial respiration was abandoned.

Dose.—The amount taken can only be estimated. Of the three drams prescribed 10 or 12 drops had previously been taken. About 1½ drams remained in the bottle, and an uncertain amount had been spilled, but by conservative estimate 30 or 40 minims was the maximum amount swallowed.

Comments.—No very accurate conclusions can be drawn from this case, except that bromoform is a dangerous drug, probably more poisonous than chloroform, and should be handled with care. Its action was comparatively rapid and apparently paralyzed the heart's action and vasomotor system more rapidly and completely than it did respiration. It was effective in controlling the spasms of whooping cough, when used in full doses, but its agreeable taste makes it a temptation to the child who has access to it.

New Instrument.

A NEW AIR-DILATING URETHROSCOPE.

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For some time past I have been an advocate of the more general use of the endoscope in the treatment of chronic urethritis and urethral lesions. While my work with the various instruments designed for endoscopy has given me good results, I have at the same time felt the need of improved technic in this work. The advent of the mignon lamp of Koch of Rochester was a distinct advance over the platinum loop of the Oberlander instrument and the various forms of reflected-light instruments. The application of the air-dilating principle of Schall and Fenwick, while an advantage, was more than offset by the disadvantages of the means of illumination.

Realizing the advantages of air-dilatation applied to urethroscopy and of the cold lamps made in this country, I devised the instrument which is here illustrated, and which, I believe, combines the valuable features of former instruments, while being free from their disadvantages. The instru-

set of operating instruments, so far, comprises two knives, a canula and a probe, and their uses are obvious.

The technic of endoscopy with this instrument is simple. The tube to be used is selected and the universal head is attached. The light-carrier is then placed in the universal head and so adjusted by the handle that the distal end of the light-carrier falls into the groove in the distal end of the tube. The obturator is then inserted, the connection made with the battery and the instrument introduced the required distance. Then the obturator is withdrawn and the excess secretion mopped up. The bevel window is inserted and, the dilating bulbs having been attached, the penis is grasped in the left hand while pressure on the bulbs with the right makes dilatation. The collapsed, stellate folds of the urethra are obliterated and the urethra comes into view as a tube, every point on the walls of which can be accurately observed. If the endoscope was properly selected and an excess of air pressure is not caused, no air escapes along the sides of the instrument.

On account of the extensive area brought under observation any lesions contrast strongly with the adjacent healthy mucosa. Cystic follicles form projecting points. Congestions or erosions are easily recognized in character and extent. Submucous infiltrations form irregularities in the lumen of the urethra.

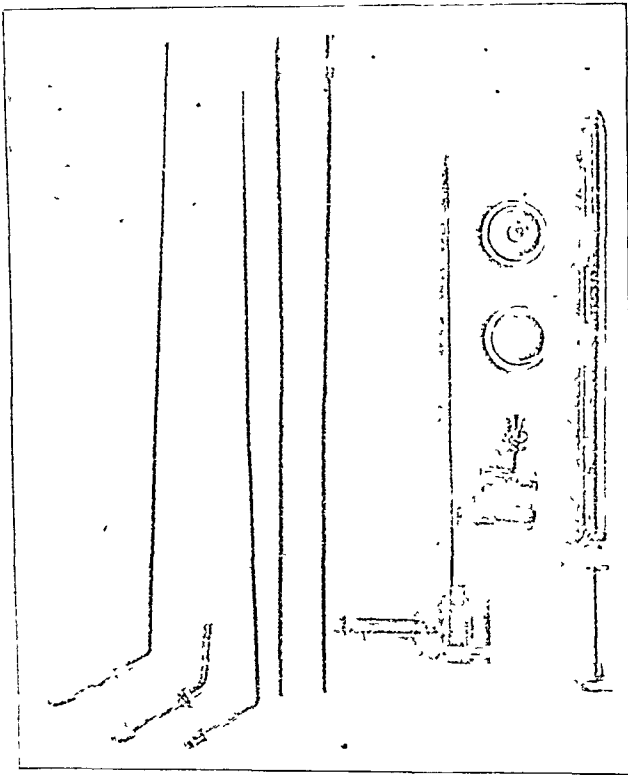


Fig. 1.—Aero urethroscope 1. Tube with obturator inserted 2. Universal head with stop cock attachment 3. Light carrier 4. Observation window. 5. Operating window 6 and 7. Knives 8. Handle for knives. 9. Canula. 10. Probe.

ment has for its component parts an endoscopic tube having the points of excellence of the Guiteras tube; a universal head which is attachable to any size of endoscopic tube by a screw joint and which has the valve attachment for the dilating bulbs; a light-carrier having at its distal end a mignon lamp and fitting into the universal head by a bevel joint, insuring an air-tight connection; an obturator having a universal handle and a glass window fitting into the light-carrier by a bevel joint. The light-carrier is adjustable to any size of endoscopic tube by means of a screw connection between the light-carrier shaft and handle.

The possibilities of air-dilatation appealed to me so forcibly that I added to the instrument a glass operating window which has in its center a metal adjustable gland, fitted with a rubber gasket, insuring an air-tight contact between the operating instrument and the gasket and yet permitting of all necessary mobility on the part of the instrument in use. The

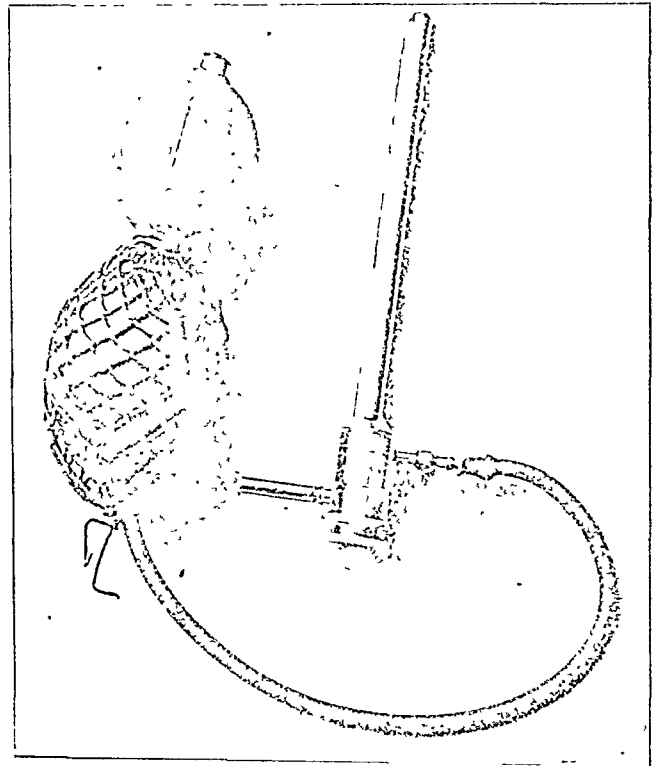


Fig. 2.—Aero-urethroscope, with universal head and light carrier in place. Obturator withdrawn and observation window and dilating bulbs attached

In two locations, especially, I have found this instrument of unusual service, namely, the bulbous and prostatic portions of the canal. It is in these points of physiologic dilatability that urethroscopy with the ordinary urethroscope has proven unsatisfactory, the urethra falling into such folds as to conceal gross lesions despite skillful manipulation. Endoscopy of the prostatic urethra has proven particularly difficult on account of the wide dilatability of this region as compared with the narrow membranous portion. Naturally, an endoscope which would pass comfortably the membranous urethra would find the prostatic portion thrown into voluminous folds. On account of the rigidity imparted by the triangular ligament it is practically impossible by any manipulation to obliterate these folds. With this instrument the constriction of the compressor in front and the tonic spasm of the internal sphincter behind form an ideal location for air-dilatation, every point in the prostatic urethra falling into view. The bladder should be emptied before attempting posterior endoscopy.

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THE TYPHOID EPIDEMIC AT BUTLER, PA.

The calamitous outbreak of typhoid fever at Butler must be ranked not only as one of the most extensive epidemics of the kind that has ever occurred in this country, but as one of the most extensive on record anywhere. Several of the largest epidemics of recent times have occurred in England and the United States. The magnitude of the Maidstone (England) epidemic, perhaps, surpasses that of any other carefully studied typhoid epidemic of late years, about 1,900 cases being recorded in a population of 35,000. The celebrated epidemic at Worthing, England, in 1893, gave rise to 1,317 cases. In the well-known epidemic at Plymouth, Pa., in 1885—perhaps the severest of all in proportion to the population involved—1,104 cases developed among a population of about 8,000. The total number of cases occurring at Ithaca last spring reached approximately 900. At Butler, a city with about the same population as Ithaca (15,000-16,000) over 1,200 cases have already been registered, and it is said that new ones are being reported at the rate of 10 to 15 per day. The proportion of cases to population at Butler will doubtless be somewhat lower than at Plymouth, but the total number of cases will probably exceed any similar epidemic in this country.

It is certainly discouraging to have to chronicle another such catastrophe so close on the heels of the Ithaca epidemic of March, 1903. The mode of infection seems to have been the same in the two places, and a contaminated public water supply must again be accredited with the responsibility of the misfortune. So far as the previous prevalence of typhoid fever was concerned, Butler seems to have had less warning than Ithaca; otherwise the conditions preceding the outburst appear to have been dishearteningly similar. The train has long been laid. The familiar and critical situation of an unpoliced, unprotected watershed on which cases of typhoid fever have been allowed to develop unwatched and apparently without efficient control of any kind, has finally culminated in the present disaster.

In pessimistic moments one is tempted to conjecture how many other smoldering foci of typhoid exist in various parts of the country, only waiting for a series of untoward accidents to fan them into flame.

It is perhaps a legitimate inquiry as to just how many such catastrophes will be needed to implant a sense of responsibility in the minds of water-works officials and local boards of health. In some communities it is not a

matter of great difficulty to recover large damages from corporate authorities for personal injuries due to broken sidewalks or defective highways. Sooner or later, we believe, a similar sensitiveness will be aroused concerning the liability of some responsible organization for the distribution of infected drinking water. In the light of our present knowledge of sanitary matters and modes of infection one is disposed to ask whether it is reasonable for those in charge of the public health of a community to allow themselves to be diverted by new systems of plumbing and garbage disposal away from the vitally important matters of water supply and milk supply. The usual vehicles of infection and methods of transfer of specific disease germs are now so clearly understood that public opinion will not content itself much longer with the explanation of an unpreventable accident. With two such terribly illuminating examples as Ithaca and Butler to light the way to reform, it is evident that the most intelligent opinion in future will hardly be satisfied with the vague statement that a typhoid epidemic is due to a fortuitous concurrence of circumstances. The question of responsibility will soon become as conspicuous in the matter of typhoid epidemic as it is already fast becoming in railroad accidents. If civilized communities are unable to keep infectious material of disgusting origin out of their drinking water, it is a humiliating confession of impotence. Let us hope that the Butler epidemic will at least help to put an end to laxity and indifference.

CHOLESTERIN.

As cholesterin seems to be a constituent of most if not all cells, it may be assumed that it is of some importance, even though the quantity is generally small, yet to this time its real purpose has remained practically unknown. Although chemically a much more complex body, it resembles the fat in its physical properties and solubilities, and because of the relatively large amounts in the nervous tissue it is usually thought of in connection with lecithin. Chemically, cholesterin is one of the most inert of the body constituents, and it seems improbable that it plays any part in metabolic processes, for which reason there have been those who have been content to consider cholesterin as merely a by-product in cell metabolism, which was present in the cells in recognizable quantities, chiefly because its resistance to alteration made its removal slow. It is probably because of this resistance to chemical alteration that cholesterin is so frequently found in areas of slow cell-destruction, such as healing tubercles, atheromatous areas, inspissated pus, etc.

The importance of cholesterin, not being in its chemical properties, therefore, is possibly to be found in its physical properties, and there is accumulating good reason for believing that this is the case. We have learned that the penetrability of various sorts of cells differs for different substances, and on this probably de-

pends an important part of cell individuality in physiologic manifestations. Since cholesterol is, like the fats and waxes in general, resistant to permeation by most fluids, it will undoubtedly make much difference in the physical properties of a cell whether it has much or little cholesterol in its make-up. We may here recall the important observation of Overton that the anesthetics are solvents of fatty substances, including cholesterol and lecithin, leading to the suggestion that it is the solvent action that accounts for the anesthetic effect, the nervous tissues being richest of all tissues in lecithin and cholesterol. Another observation indicating the importance of cholesterol in a physical way refers to the red blood corpuscles, which are also particularly rich in cholesterol. It would seem that it is the cholesterol that is chiefly, if not solely, attacked by certain agents that produce hemolysis. The vegetable hemolytic poison, saponin, seems to produce its effects by action on the cholesterol, and therefore the presence of free cholesterol in a fluid containing corpuscles will protect them from hemolysis by saturating the poison and preventing its entering or combining with the corpuscles. This, it will be noted, is in full correspondence with the usual conception of the nature of the neutralization of toxin by antitoxin, the antitoxin being the particular substance of the cell with which the toxin combines. Other hemolytic poisons, but not all, have been found to be similarly affected by cholesterol. It is also suggested that ether, chloroform, and bile salts, which have long been known as laking agents, are all solvents of cholesterol. Probably, therefore, the cholesterol is an important factor in retaining the hemoglobin within the erythrocytes, and it is quite likely that in other cells it has a similar effect with regard to their constituents, not to mention the possibility of its preventing the entrance of substances from outside the cells. If cholesterol does in this way modify exchange of substances between cells and plasma it must have a most important influence on cellular metabolism.

To the practicing physician the word cholesterol usually suggests gallstones, for in this form alone has any practical importance generally been assigned to this substance. The source of the cholesterol that forms the gallstones has been a matter of contention for many years. At first it was widely held that a chemical change in the bile, perhaps because of errors in diet, led to precipitation of the small quantity of cholesterol that it contains normally. Naunyn, however, supported the theory that the chief source of bile cholesterol was in the columnar epithelium lining the bile tracts rather than the liver cells, and that in chronic inflammation it was produced in excess until a deposition occurred on some foreign body, such as desquamated epithelial cells or mucus, and that after the concretion was once started further production of cholesterol was stimulated by the irritation of the stone itself. The development of the bacteriology of cholelithiasis has corroborated this view

to the extent of indicating the importance of chronic inflammation rather than dietary considerations. Recent studies by Wakeman¹ in Herter's laboratory strengthen Naunyn's theory, for he found that sterile inflammation produced by injecting corrosive sublimate, phenol and ricin into the gall bladder resulted in the presence of several times the normal proportion of cholesterol in the cystic bile, probably derived from the degenerating epithelium of the mucosa. This being the case, we can understand readily the occurrence of gallstones in chronic cholecystitis, and their usual multiplicity is perhaps partly due to the establishment of a vicious circle, the irritation by one concretion leading to conditions favorable for the formation of others.

TUBERCULOUS AND NON-TUBERCULOUS DISEASES OF THE RESPIRATORY TRACT.

We are all familiar with the fact first pointed out by THE JOURNAL nearly four years ago (April 14, 1900), that the deaths from acute non-tuberculous pulmonary affections, especially pneumonia and influenza, have been growing more frequent of late years, if we can depend on the published statistics, while the deaths from tuberculous diseases have been decreasing. This last fact we impute to our improved methods of public hygiene, popular education as to the prevention of tuberculosis, fresh-air sanatoria, etc. The great increase in the mortality from the non-tuberculous diseases we find ourselves unable to explain.

Ascher² presents some statistical evidence on this question and suggests an interpretation of the evidence. After a warning against the use of statistics by any but experts, he points out certain facts obtained by a careful study of the mortality statistics of Prussia between the years 1875 and 1901, comparing the deaths from tuberculosis with those from the other diseases of the respiratory tract (bronchitis, catarrh of the lungs, inflammation of the lungs and pleura, etc.). The curves representing the deaths from these two classes of lung disease show graphically a decline in the deaths from tuberculosis, beginning in the year 1880, and an increase in the deaths from the other respiratory diseases, beginning in the very same year. The two curves cross in 1890, and from 1892 on the curve representing the non-tuberculous is always higher than the curve representing the tuberculous. Nor is this due simply to the diminution in the death rate of tuberculosis. There is an actual as well as a relative increase in the non-tuberculous diseases, as is shown by the fact that the combined death rates from these two classes were the same in 1901 as they were in 1875. During the first five years of the period in question, i. e., from 1875 to 1879, the mortality from both tuberculous and non-tuberculous diseases of the respiratory tract was 48.29 per 10,000 living; and during the last five years, 1897 to 1901, in spite of

1. Trans. Assn. Amer. Physic., 1903, vi, 162.

2. Berliner klinische Wochenschrift, Nov. 2, 1903.

the diminution in the deaths from tuberculosis, it was 48.03, almost exactly the same. Rahts, the statistician for the Imperial Health Office of Germany, finds that the same change has taken place in the rest of Germany, outside of Prussia, and also in England.

Ascher gives less credit to the modern crusade against tuberculosis than it is accustomed to receive. As the fall in the death rate from tuberculosis began in 1880, two years before Koch's discovery of the *Bacillus tuberculosis*, eight or nine years before Cornet's work and at least ten years before Flügge's, it is evident that modern methods of isolation, prophylaxis, sanatorium treatment, etc., can not be entirely responsible for it. The increase in national prosperity has undoubtedly something to do with it, leading as it does to improved conditions among the working classes and to lessened emigration, for emigration always raises the apparent death rate by removing a certain proportion of healthy young adults. There are, however, deeper causes than these. That the decline in mortality from tuberculous diseases of the lungs is intimately connected with the increase in mortality from the non-tuberculous, seems to be proved by these Prussian statistics, which show that while deaths from tuberculosis in middle life are decreasing, deaths in early childhood and old age from non-tuberculous diseases of the lungs are steadily increasing, and also that the acute diseases of the lungs are gradually replacing the chronic. This must not be regarded as a mere coincidence. The removal during early childhood of an increasing number of persons with "predisposed lungs," lessens the number of those who would contract tuberculosis during later life. Indeed, it is claimed by Rahts that in those regions where infant mortality is very high, the death rate from tuberculosis is comparatively low. (In the Chicago health reports, on the other hand, the increase of pneumonia is coincident with decreased infant mortality.) As for the increase in the deaths from acute inflammatory diseases of the lungs during old age, that probably has a direct relation to the diminution in the deaths from chronic tuberculosis, the persons with chronic tuberculosis succumbing finally to influenza or pneumonia. The increasingly acute character of lung diseases is shown also by the fact that fewer tuberculous patients reach the age of fifty.

It seems remarkable that in these days of scientific research and of great advance in public hygiene, we should be utterly unable to control or even to account for this enormous, unprecedented increase in acute non-tuberculous diseases of the lungs. Ascher accuses the medical world of approaching the problems of hygiene from one side only—from the point of view of the chemist and bacteriologist—forgetting that, just as internal medicine requires not only experimental pathology but clinical work, so public hygiene requires not only investigations in the laboratory but in sociology as well.

SPENCER AND POPULAR BIOLOGY.

The recent death of Herbert Spencer has recalled general attention especially to certain of his theories that were popular among the medical profession a generation ago. Between the time when he wrote his "Principles of Psychology" as a young man and revised the latest edition of his "Principles of Biology," Spencer's views as regards the significance of life had undergone a decided change. In discussing Spencerian principles it is the custom of many to accept his earlier immature view as representative of his opinions rather than his latest thinking. In his "Principles of Psychology" he said: "The chasm between the inorganic and the organic is being filled up; the microscope has traced down organisms to simpler and simpler forms until in the proto-genes of Professor Haeckel there has been reached a type distinguishable from a fragment of albumin only by its finely granulated character." In a letter published in *Nature* (Oct. 20, 1898), Mr. Spencer said: "In my revised 'Principles of Biology' I have contended that the theory of a vital principle fails and that a physico-chemical theory of life also fails; the corollary being that in its ultimate nature life is incomprehensible."

Mr. Spencer had thus come to recognize the mystery of life and its insolubility, as have practically all the great scientists who have expressed their opinions on the subject during the last decade. While undoubtedly he was a great thinker, too much of his philosophy is brilliant theorizing rather than scientific thought that will endure. As a distinguished American zoologist said not long since, "Nature never acts according to the anticipations of the closest philosopher." The phrase Spencer so often quoted, "the survival of the fittest," became one of the shibboleths of biology, but our generation is much more interested in the origin of the fittest, which is the real biologic problem, rather than in its survival, since this is manifestly due to certain inborn qualities.

Some of his other expressions have ceased to have the significance they had. Ontogeny recapitulates phylogeny is no longer considered to be a basic principle in biology. All living beings originate in a single cell, but to consider by that fact that they all begin at a point in development beyond which the single cell creatures have never gone, is utterly false to our present knowledge of biology. Between the single cell fertilized human ovum from which man is to develop and the ameba there is an immense distinction, not only in possibilities, but also in physiologic constitution, in chemical composition and even in the physical arrangement of the materials. It is patient observation, not brilliant theory, that brings us enduring advance in science.

HOME MANAGEMENT OF TUBERCULOSIS.

The second Phipps lecture, delivered by Dr. Osler, December 3, had for its subject "The Home in Its Relation to the Tuberculosis Problem." A fact not always appreciated in the present enthusiastic crusade against

tuberculosis is that 98 per cent. of the sufferers from this scourge can not receive the sanatorium treatment which is now so much to the front as the remedy *par excellence* for this disease. It is only in the home management that this large per cent. of sufferers can have any hope, and this hope depends on the family physician. It was a good idea on Dr. Osler's part to call attention to this fact, for it is in this particular direction that the principal victory over the disease must be won. Sanatoriums must have an educating effect and are undoubtedly of immense value to the few that are able to receive their direct benefits, but if we are to look for any great decrease of consumption it must be mainly due to the general practitioner in his management of the cases that come under his care. Dr. Osler accepts the view that nearly all of us are infected, and that in old age but few of us will be found free from some focus of the disease. He also refers to the unsatisfactory present status of the theories of the origin of the disorder, and does not feel authorized to accept the recently enunciated views of Behring and others as to the incorrectness of the hitherto prevalent theory of air infection. While it matters a great deal how tuberculosis is acquired, nevertheless if its acquirement is such a universal thing the principal task in the fight against the disease must be to strengthen resistance. It is encouraging to think that about nine-tenths of all those that are attacked at some time in their lives must recover to account for the statistics as we have them, but the other one-tenth should be reduced to a still lesser fraction at the earliest possible moment. Dr. Osler's remarks are timely in that they bring out certain circumstances that are not always duly estimated by the general public or even by the members of our profession.

TRITURATION IN LIQUID AIR.

A study of the vital properties of organized matter is a complex one, and whatever may lead to doing away with some of its embarrassments is a certain advance. We hold that the vital functions of cells depend on the specific physiologic and chemical arrangements and that the ordinary methods of biologic and chemical research destroy these more or less. Attention is called to this difficulty in a recent communication¹ to the British Association for the Advancement of Science by Prof. MacFadyen, who has sought out a suitable method for obtaining the cell plasma for experimental work, as far as possible unaffected by physical and chemical agencies which would disturb its vital qualities. The chief previous work which has sought to avoid these objections is that on the yeast plant by Buchner, who, by mechanical rupture of the cells and release of their content with preservation of its properties, obtained some valuable results. The desiderata are rapid disintegration and the avoidance of heat and other interfering elements. Buchner's method produced good results, but MacFadyen has sought to still further improve on it. The method he has employed has been by the use of trituration in liquid air, and the most striking results he has obtained are with the bacteria by this method. It is well known that the bacteria are not immediately devitalized by intense cold, but are put in a position which permits of their

rapid and effective trituration, thus releasing their cell contents. He has found by employing this method that certain bacteria possess intracellular toxins which are not otherwise obtained. Among these may be enumerated the typhoid bacillus and pus organisms. Another peculiar fact that he has observed is that in regard to the photogenic bacteria which lose their power of giving out light after trituration notwithstanding the unaltered condition of the plasma, thus indicating that the light-producing power is a vital one in some way connected with their organized, intact condition and not dependent only on their chemical and physical constitution. The brain of an animal dying of rabies loses also its infective property by trituration in liquid air, which he thinks supports the idea of an organized virus in this disease. Some new aspects of immunity are obtained from the intercellular standpoint and the method throughout seems to be new and withal one of decided value. Some of MacFadyen's results have been already referred to,² and the future prospects of the method are certainly encouraging.

THE DIPHTHERIA BACILLUS AS A CAUSE OF GANGRENE OF THE SKIN.

In 1902, Sailer³ reported two cases of gangrenous stomatitis following typhoid fever, in which the bacillus of diphtheria was found in the gangrenous patches. One of his patients, a boy, aged fourteen years, died in spite of the administration of 12,000 units of antitoxin; the other patient, a girl, aged eight years, recovered after the use of antitoxin. The bacillus of diphtheria has been found by several other observers in cases of noma of the mouth, as well as of the vulva. It seems, however, that noma is not the only gangrenous affection that may follow infection with this bacillus. Bernard and Jacob⁴ have recently reported the case of a soldier, aged twenty-five years, who presented two furuncles on his left thigh. In a few days these boils opened and discharged, but the wounds, instead of healing, became larger, spread and appeared gangrenous, so that the patient had to enter the hospital. On admission there were scars, ulcers and pustules of a gangrenous nature on the skin, from which the *Staphylococcus pyogenes aureus* and a streptococcus were obtained. There was no apparent explanation for the condition, as the man had always been well and presented no pathologic conditions on examination. The skin lesions spread and increased in number and, about twenty-five days later, a second bacteriologic examination was made and diphtheria bacilli were found, as well as the staphylococcus and the streptococcus previously described. No diphtheria bacilli were found in the mouth, the pharynx or the nasal fossæ, nor, so far as could be learned, had he been in contact with a patient suffering from diphtheria. The patient was given 30 c.c. of diphtheria antitoxic serum in three doses of 10 c.c. each, after which the lesions cicatrized very rapidly. Cases of gangrene of the skin have been reported as the result of a pure staphylococcus infection, as a result of an infection with a pure culture of the diphtheria

1. Nature, October 22.

2. THE JOURNAL A. M. A., p. 1416.

3. Am. Jour. Med. Sci., January, 1902.

4. Arch. Méd. Exp. et d'Anat. Path., September, 1903.

bacillus, and as a result of a symbiosis of these two organisms. The authors have collected a number of cases belonging to each of these three classes. The diagnosis of such an etiologic factor in cutaneous gangrene can be made only after complete bacteriologic examination. The case reported in the paper mentioned, therefore, may serve as an illustration of the value of bacteriologic studies in similar cases. The case also shows that disseminated gangrene of the skin is not a single nosologic entity, but that one form, at least, may be due to an infection with the diphtheria bacillus.

Medical News.

CALIFORNIA.

Dysentery Epidemic.—Dysentery is said to be epidemic in Caspar, Mendocino County. Several deaths have occurred.

Italian Hospital to Open.—The Italian Hospital, San Francisco, will soon be ready to receive patients. It is located in the old Toland College building, which is being remodeled.

Personal.—Dr. Charles C. O'Donnell, San Francisco, accompanied by his niece, has started on a trip round the world.—Dr. William D. Dilworth, Oxnard, has sold his practice and will spend two years in special studies in New York and Europe.

New Society.—A new and exclusive scientific society, with a membership limited to 40, has been organized in Los Angeles, known as the "Clinical and Pathological Society." The following officers were elected: Dr. Andrew S. Lobingier, Los Angeles, president; Drs. Fitch C. E. Mattison, Pasadena, and Jay H. Utley, Los Angeles, vice-presidents; Dr. Frank D. Bullard, Los Angeles, secretary; Dr. John R. Haynes, Los Angeles, treasurer, and Drs. Ernest W. Fleming and Milbank Johnson, Los Angeles, executive committee.

ILLINOIS.

Lays Cornerstone.—With due ceremony Rev. D. L. Crowe laid the cornerstone of the new St. Francis Hospital, Kewanee, December 8.

Data Wanted on Epilepsy.—The State Board of Charities has sent a circular letter to each physician in the state asking for definite data regarding epilepsy in the state.

Octogenarian Honored.—On the occasion of his eightieth birthday anniversary, December 2, Dr. William J. Chenoweth, Decatur, received a greeting signed by all the medical men of the city congratulating him and bearing good wishes.

Personal.—Dr. Samuel C. Plummer, Chicago, surgeon-in-chief of the Rock Island system, has been made secretary of the association of surgeons of that road.—Dr. Thomas B. Knox, Quincy, has succeeded Dr. Le Roy P. Barstow as physician of the township.—Dr. John T. Spence, Camp Point, has been chosen physician of Adams County.

Contagious Diseases.—Canton reports 100 cases of typhoid fever and 10 deaths.—Scarlet fever and diphtheria are epidemic at Geneva, and the public schools have been closed. Since October 25 there have been 17 cases of diphtheria in Pekin.—An outbreak of smallpox is reported from Locust township, Christian County.—Prevalence of scarlet fever has caused the closure of Palmer schools.—Lakeside, Winnetka, Evanston and Glencoe are alarmed because of the presence of scarlet fever.—Scarlet fever is said to be raging near Bunker Hill. In one family three deaths have occurred.—After a strenuous battle for two months smallpox has been stamped out of Moline. Twenty-six cases in all were reported.—At Millersville, 22 cases of smallpox have been reported.—Springfield has 14 cases of diphtheria and 21 cases of scarlet fever.

Chicago.

A Successful Auction.—At the auction of boxes for the charity ball, of which St. Luke's Hospital is the beneficiary, \$15,450 was realized.

Reynolds Reappointed.—The mayor has reappointed Dr. Arthur R. Reynolds commissioner of health, and by a unanimous vote, on December 14, the city council confirmed the appointment.

New Hospitals.—The management of St. Joseph's Orphan Asylum has had plans prepared for a three-story hospital on

the northwest side, to cost \$20,000.—The Hospital Sisters of St. Joseph, Montreal, will build on land acquired in Englewood, a hospital to be called Hotel Dieu, and to cost \$80,000.

December Health.—Thus far in the month the public health, as measured by the death rate, has been satisfactory. The average December rate for the previous decade was 15.24 per 1,000; for the first twelve days of December, 1903, the rate has been 13.36 per 1,000, or 12.3 per cent. lower than the average.

Personal.—Drs. William Engelbach and G. W. C. Parker, retiring internes at the County Hospital, will continue their studies in Vienna.—Dr. Craig R. Snyder, a former interne at the hospital, intends to enter the medical department of the Army.—Dr. Joseph F. Biehn, as the result of a competitive examination, has been certified by the civil service commission as city bacteriologist and superintendent of the milk and food inspection bureau.

Prophecy Fulfilled.—The forecast of the Department of Health that there would, between Nov. 1, 1903, and May 31, 1904, be an excess of pneumonia deaths over deaths from consumption in the proportion of more than 60 per cent. of the former to less than 40 per cent. of the latter, is fully sustained by the figures for the first 42 days of the period. During these six weeks there have been 286 deaths reported from consumption and 506 from pneumonia—a proportion of 36.2 per cent. for consumption and 63.8 per cent. for pneumonia.

Antitoxin Reduces Diphtheria Mortality.—The Department of Health, in its latest bulletin, thus comments on the value of antitoxin in diphtheria:

Since the introduction of antitoxin in the treatment and prevention of diphtheria its mortality rate has been reduced by nearly one-half—that is, from an annual average of 6.25 deaths in every 10,000 of the population in the seven years 1889-1895 to an annual average of 3.24 in the seven years 1896-1902 of antitoxin treatment. But this is not enough.

The seven years' experience clearly proves that no child should—that no child ever did die of diphtheria when treated early enough with a sufficient quantity of good antitoxin. The pre-antitoxin mortality of diphtheria in Chicago was about 35 deaths in every 100 cases of the disease. In the many thousands of cases among the poor and destitute treated by the department inspectors under the most adverse conditions the rate for the whole number has been less than 7 deaths in the 100 cases. And there are many physicians in Chicago and elsewhere who have records of hundreds of cases with a rate of less than 2 deaths per 100.

INDIANA.

Medical Library for Southern Indiana.—At a meeting of the Vanderburgh County Medical Association, November 17, steps toward the founding of a public medical library in Evansville were taken.

Will Not Endorse Contract Services.—At the regular meeting of the Delaware County Medical Society, December 4, the society took decided action against the indorsement of the "Red Cross Medical Association," recently organized in this and other counties of the state, on the grounds that it was impracticable, unethical and a form of contract service.

Personal.—Dr. Joseph G. Rogers, superintendent of the Northern Indiana Hospital for the Insane, Logansport, has had his salary increased from \$2,000 to \$2,500.—Dr. J. Rudolph Yung has been appointed police surgeon of Terre Haute, vice Dr. Myron A. Boor, who has been made smallpox physician.—Dr. Arvill W. Bitting, Lafayette, who was injured in a railway accident at Indianapolis, has returned home recovered.—Dr. August Knoefel, New Albany, has been made county physician of Floyd County.

Epidemic Diphtheria.—Diphtheria has caused the schools at New Haven to be closed.—At Michigan City a parochial school has been closed on account of the prevalence of the disease; four deaths have occurred.—The disease is prevalent at Emison and Oaktown and is said to be raging in Spencer County.—School at District No. 3, Hutton, has been closed on account of the disease.—Colfax County schools are said to be in unsanitary condition and the State Board of Health has been asked to investigate.—At Tell City two deaths have occurred.—Elwood has several cases.

IOWA.

Smallpox at Arlington.—There are said to be 50 cases of smallpox at Arlington; the city has been thoroughly quarantined, and it is hoped that the disease will not spread.

Ante-Nuptial Health Certificates.—The Iowa Society for Suppression of Disease and Degeneracy has prepared a bill to be proposed, providing for a physician's certificate of examination before a marriage license can be issued.

Personal.—Dr. Charles H. Hoffman, Des Moines, is suffering from a severe infection of the right arm, the result of an

autopsy wound.—Dr. Emmett C. Chapman, Fort Madison, has been elected president of the Santa Fe Hospital Association.—Dr. Malcom N. McNaughton, Villisca, has sold his practice to Dr. F. S. Williams, of Chapman, Kan.

Stops Indiscriminate Sample Distribution.—The Fort Dodge council has passed an ordinance prohibiting "the distribution of any sample packages of patent medicines, pills or other free samples of any preparation whatever for medicinal purposes by way of advertisement, by leaving the same on the porches or doorsteps of any of the residences or dwelling houses, or business houses, or on any streets, sidewalks or lots within the corporate limits of the city of Fort Dodge, Iowa." Such samples may be distributed, however, the ordinance says, by placing them in the hands of adult persons or in some safe place intended for that purpose.

KANSAS.

Office Raided; Whiskey Seized.—The office of Dr. Samuel B. Wilson, Olathe, was recently raided, 40 gallons of whiskey seized, and the physician placed under arrest on 13 charges of selling whiskey.

Hospital on Fire.—A fire occurred at the Leavenworth Hospital, December 7, which destroyed the roof, and damaged the building to the extent of about \$3,000. The twenty patients were safely removed.

Smallpox.—Goodland has about 15 cases, and through lack of efficient quarantine, the disease has been carried to Benkelman township, where 16 cases have been reported.—Cherokee County reports 7 cases.

Physician Wins Case.—The suit brought by Frank Oldham against Dr. Lewis H. Munn, Topeka, in which the plaintiff alleged malpractice, was dismissed for lack of evidence, before the trial had reached its natural end.

Personal.—Dr. Edward P. Chase, Shawnee, was seriously injured, December 10, by being struck on the head with a scale-weight.—Dr. Francis M. Thomas, Leavenworth, surgeon of the federal prison, has been seriously ill with pulmonary hemorrhages, but is now reported as improving.

KENTUCKY.

Louisville City Hospital.—The Board of Public Safety has made Julius C. Vogt superintendent of the Louisville City Hospital, vice Dr. Ellis Duncan, removed.

Threatens Quarantine.—West Virginia has been notified by the Kentucky State Board of Health that unless precautions are taken to protect Kentucky against smallpox patients coming from the former state, a quarantine will be established. All who enter Kentucky will be vaccinated.

Smallpox.—Kenova has quarantined against Ceredo.—There are 8 new cases of the disease at Willard.—The disease is reported at two points in Whitley County.—In Frankfort the only cases since September have been four in one family, all fatal.—Richmond has 11 cases among negroes.—At Smith's Grove four cases are reported in one family.

Personal.—Dr. Thomas J. Slaton, Greenville, recently sustained an injury to his ankle in a runaway.—Dr. Irvin Abell has gone to British Honduras and Brazil to recuperate from a serious attack of sepsis.—Dr. Charles L. Moir, Louisville, has been appointed secretary of the City Hospital, vice Dr. George B. Jenkins, resigned.—Dr. James W. Crowley, Newport, has been elected president of the local board of health.—Drs. Joseph M. Mathews and Bernard Asman have reassociated themselves for the practice of their specialty. Dr. Asman recently returned from Europe.

LOUISIANA.

Personal.—Dr. John J. Archinard, New Orleans, has been elected house surgeon of the Old Soldiers' Home.

Tulane Opens.—The medical department of Tulane University, New Orleans, opened for the year, October 26, with an address by Dr. Matas.

Rabies To Be Treated at Charity Hospital.—At a recent meeting of the board of administrators of Charity Hospital, New Orleans, the report of the special committee appointed to investigate and advise the board of the expense of establishing and maintaining a department for the treatment and cure of hydrophobia was submitted and unanimously adopted. The committee was instructed to carry out its plans.

Society Elects Officers.—At the annual election of the Orleans Parish Medical Society, December 12, the following officers were elected: President, Dr. Marcus J. Magruder; vice-presidents, Dr. Jacob A. Storek, William M. Perkins, and Otto Joachim; secretary, Dr. Samuel M. D. Clark; treasurer, Dr. Edward J.

Huhner; librarian, Dr. Homer Dupuy, and additional directors, Drs. Edwin J. Graner, Eugene H. Walet and Morgan M. Lowe, all of New Orleans.

MARYLAND.

Physicians' Homes Burn.—The dwelling-houses of Dr. Benjamin M. Price, near Mt. Carmel, and of Dr. S. B. Milford, at Poolesville, were destroyed by fire December 8.

Try to Enforce Laws.—The State Board of Health is trying to enforce the law requiring registration of births. It is also discussing a school for health officers to be held annually.

Smallpox at Quarantine.—Quarantine Physician Heiskell reports 51 cases of smallpox cared for this year at the hospital, with two deaths. Forty-one were brought from Baltimore and 10 from Homburgville, in Baltimore County, where the disease broke out in a camp last summer.

State Hospital Report.—Dr. J. Clement Clark reports 515 patients in Springfield State Hospital for the Insane, November 30, 290 males and 225 females. The typhoid outbreak has subsided under isolation, disinfection and sterilization of linen, etc. An isolation cottage is urged for infectious diseases.

Baltimore.

Money for Hospital.—By the will of Mrs. Mary C. Bailey \$1,000 was left to the Nursery and Child's Hospital.

Gilman to Resign.—Dr. D. C. Gilman has announced his intention of resigning the presidency of the Carnegie Institution at Washington, next year.

Personal.—Dr. William B. Perry was elected to take charge of the surgical and gynecological departments of the North-eastern Dispensary, December 9.—Dr. José L. Hirsh has been elected president, and Dr. John R. Abercrombie, secretary, of the University of Maryland Medical Societies.

Tuberculosis Exposition.—The executive committee decided on January 25 as the date of the opening of the display. Interest is manifested all over the United States in the display. Many state boards and city health departments and hospitals and sanatoria have promised special exhibits, and there will be contributions from Germany, England, Holland, France, Belgium, Austria and Russia. Applications are being received from manufacturers for space for apparatus and devices. The pathologic exhibit will be particularly fine. The exposition will last a week, and there will be daily lectures. A meeting of the executive and general committees was held December 9. It was announced that the scope of the exposition had far outgrown the original plans, and the interest was so widespread that it had now assumed national importance. A number of addresses was made, and several subcommittees were appointed to take charge of the different branches of the work. A committee of citizens has been appointed, and \$1,500 will be raised for expenses. McCoy Hall has been offered by the Johns Hopkins University for the display.

OHIO.

Starling Student Dies.—Nathaniel C. Keener of Uniontown, Pa., a senior student at Starling Medical College, Columbus, died at Mount Carmel Hospital in that city, December 5, from appendicitis.

Elects Officers.—The Marion County Medical Society met at Marion, December 1, and elected Dr. A. Melville Crane, president; Dr. Robert C. M. Lewis, vice-president; Dr. Dana O. Weeks, secretary; Dr. Francis B. Sawyer, treasurer, and Dr. Charles E. Sawyer, member of the board of censors, all of Marion.

Personal.—Dr. Alexander W. Leuke, Cleveland, has been appointed workhouse physician, vice Dr. Frederick J. Schmoldt, resigned.—Dr. George W. Boerstler, Lancaster, who has been at St. Anthony's Hospital, Columbus, on account of an infected wound, was obliged to have the affected arm amputated near the shoulder.—Dr. William Muhlberg has been elected curator of the Cincinnati City Hospital laboratory, vice Dr. Alfred Friedlander, resigned.

Epidemic Diseases.—The public schools of Butler have been closed on account of the prevalence of measles, pertussis and varicella among the pupils.—In Cleveland, during November, 369 cases of communicable disease were reported, 205 of which were of diphtheria.—Diphtheria has broken out at the Westminster Missionary Home, Wooster.—Smallpox is said to be epidemic in North Jackson and in Pausberg; at the latter point 14 cases have rapidly developed.

PENNSYLVANIA.

Women Incorporate Hospital.—Application has been made in Common Pleas Court for a charter for the Homestead Hos-

pital, to be erected at Homestead. All the incorporators are women.

Philadelphia Hospital Dinner.—At the annual banquet of internes and ex-internes of Philadelphia Hospital, held December 1, Dr. J. Chalmers Da Costa was toastmaster, and the mayor, Director of Public Health Martin, Dr. F. X. Dercum and Dr. George E. de Schweinitz were guests of honor.

Pathologic Exhibit.—The annual exhibition meeting of the Philadelphia Pathological Society will be held in the Mutter Museum of the College of Physicians, Jan. 14, 1904. This exhibition embraces every department of human and animal pathology, with microscopic demonstrations of the gross material, and represents the pathologic material of scientific interest accumulated in the various hospitals during the year. The exhibition is open to all members of the medical profession.

Accidents and Injuries.—Dr. Karl Emmerling, Pittsburg, is recovering from the injuries received in the accident which cost Dr. Blumberg his life.—Dr. Boardman Reed, Philadelphia, who underwent an operation for appendicitis, December 2, is recovering.—Dr. Robert J. A. Irwin, Pittsburg, suffered a fracture of the left arm in an altercation with a street car conductor, December 4.—Dr. Horace G. Colley, Wilkesbarre, was seriously injured by falling through an open grating on a sidewalk, November 27.

The Typhoid Epidemic at Butler.—The situation at Butler has undergone no great change since our last issue. New cases continue to be reported by the physicians, but there is, on the whole, some falling off in number. The representatives of the Pennsylvania State Board of Health, now in charge of the situation, are engaged in making an exhaustive canvass of the town with a view to determining the precise number of cases since the onset of the epidemic. It is stated that up to December 9, 478 infected houses had been visited in connection with this census, or about two-thirds of the number in which typhoid fever is supposed to exist. From these houses a record of 1,210 cases of the disease was obtained, and 38 deaths. The total number of deaths up to the present time probably exceeds 50. An appeal to the general public was issued in the middle of the week by William Kennedy, Burgess of Butler, reading as follows:

In justice to all, in behalf of the borough government and the entire people of Butler, I beg leave to state so far we have been able to help our people without a general call for outside aid. We contributed \$8,000 to the relief fund and outside cities raised this amount to \$16,000. We have been carefully using this since November 10. Now we are forced to admit our funds are getting low.

We feel as a committee for the relief of our suffering people that necessity compels us to issue a general appeal for outside assistance. We have been criticized in various ways. We wish to assure the public that we have been doing our very best to relieve suffering, sorrow and want. We were inexperienced in an epidemic scourge such as this is. It came on us so suddenly that it took a little time for us to realize the awful truth that has been forced on us and to prepare ourselves to best fight the epidemic. We are now thoroughly organized and working together as a committee and as a people perfectly in-harmony, sympathy and kindness, as a single individual, doing all in our power to relieve the suffering and needy ones in our community. We will be able to give to the public an accurate account of all money received and expended.

It is stated that it will take \$100,000 to carry us through this siege of disaster. We can not raise it. Necessity compels us to issue a general appeal for outside aid and assistance. We want the public to realize that we all have been and are doing our very best, giving time and money where needed. But we feel we have exhausted our supplies in every way, and many precious lives may still be sacrificed if outside aid is not furnished us.

We, as a people, are thankful for the aid already received and for the great sympathy shown us. If need be we will accept the criticism also. And we appeal as a stricken people, unable longer to help themselves, for aid in our distress.

WILLIAM KENNEDY, Burgess.

In response to this appeal many additional subscriptions have been made, and it is said that up to December 12 contributions amounting to over \$30,000 had been received. The sum now in hand is thought to be sufficient to cover the expenditures for ten or twelve days longer. Three temporary hospitals have been put into commission, in addition to the Butler County General Hospital, which has been taxed to its utmost since the beginning of the epidemic. It is possible that another temporary hospital may have to be opened. Miss Barton, the head of the International Red Cross Society, has arrived in Butler, and plans to aid in the work of relief. It is probable that a Red Cross hospital will be established in connection with a hospital supplies room and diet kitchen.

GENERAL.

Primary Ovarian Pregnancy Data Wanted.—Dr. Louis Frank, 229 W. Chestnut Street, Louisville, Ky., would appreciate communication from any one who has personal knowledge of a case

of primary ovarian pregnancy. Data regarding the pathologic finding is especially wanted.

Colorado Medicine.—This is the title of the new journal owned and published by the Colorado State Medical Society, and which takes the place of the annual transactions. The number before us consists of thirty-two pages, all filled with excellent scientific matter, together with news items, etc., relating especially to Colorado. It contains no advertisements. The journal is certainly a credit to the society, as well as to those under whose charge it is published. The editor is Dr. Edward Jackson.

FOREIGN.

Morphin-Scopolamin Narcosis.—An original article by Korff in the *Münchener Med. Wochsft.* No. 46, is reviewed on page 1568 of this number of THE JOURNAL. No 48 of the *Wochenschrift* has just been received as we go to press, and it states that the dosage of scopolamin was incorrectly given in the article. It should read .01 gm. scopolamin hydrobromate, instead of .001 gm., in the formula. The total amount given is thus .001 gm. scopolamin and .025 morphin. The drug is better known in this country as hyoscin hydrobromate.

Public Anti-Charlatan Meeting at Berlin.—The German Society for the Campaign against Venereal Diseases announced a public meeting to discuss the subject "Venereal Disease and Quacks." Professor Kutner delivered the opening address, from the standpoint of the physician, followed by an eminent judge, who discussed the medicolegal bearings of the question. He asserted that many of the present evils would vanish when the advertising of charlatans is restricted. At present they are favored by the law as they are allowed to advertise while physicians are not. The meeting drew a crowd, but mostly of charlatans and their adherents who did all they could to throw ridicule and discredit on the speakers, especially when one read quotations from the published writings of charlatans showing how grossly they contradict themselves. The assembly finally grew so tumultuous that the proceedings were summarily broken off and the meeting adjourned *sine die*.

The Approaching International Congress of Otolaryngology.—The subjects appointed for discussion are "Choice of a Simple and Practical Acoustic Formula," "Suppurations of the Labyrinth," and "Technic of Operating and After-Care of Otogenic Brain Abscess." The addresses on the first subject will be by Politzer, Gradenigo and Delsaux; on the second by Brieger, von Stein and Dundas Grant, and on the third by Knapp, Schmiegelow and Botey. The date has been definitely settled as August 1 to 4, 1904, at Bordeaux, France. English, French, German and Italian are to be the official languages. The fee of \$5 may be sent to Dr. Lannois, rue Emile-Zola 14, Lyons, the treasurer of the congress. The secretary general is Dr. Lermoyez, rue la Boétie 20 bis, Paris, to whom communications should be addressed, if possible before May 1, accompanied by a brief summary. The Lenoir prize will be awarded during the congress for the work that has realized the greatest progress in the practical treatment of affections of the auditory apparatus or for the invention of some portable appliance, which has materially improved the hearing of the deaf. The committee in charge of the awarding of the prize consists of Politzer of Vienna, Benni of Warsaw, Gellé of Paris, Pritchard of London, Kircher of Würzburg, Grazi of Florence, Moure of Bordeaux and D. B. St. John Roosa of New York. The prize is the interest on \$600, accumulated since the congress before the last, and the competing articles are restricted to this period. The president of the congress is Professor E. J. Moure of Bordeaux, founder and editor of the well-known *Revue Hebdomadaire de Laryngologie d'Otologie et de Rhinologie*, now in its twenty-fourth year.

PARIS LETTER.

Marmorek's New Antituberculous Serum.

A good deal of curiosity had been excited by the announcement that Dr. Marmorek, late of the Pasteur Institute, was to read a communication at the Académie de Médecine on his new serum for tuberculosis. This was to take place November 10, but on account of the quantity of communications, it was put off till November 17. The *Temps* gives an excellent account of the proceedings at the Académie de Médecine, much better certainly than most of the medical papers. The space reserved for the public was filled, numerous photographers being present. Dr. Marmorek's communication has been reviewed in THE JOURNAL, December 5 and 12, pages 1421 and 1479. According to Dr. Marmorek, definite judgment can not as yet be pronounced on his serum. Experiments are being carried out with it in various parts of the world.

Comments on the Serum.

Dr. Marmorek's communication was not immediately discussed, as he is not a member of the Academy of Medicine. According to the *Temps* Professor Dieulafoy has employed the serum in his clinique at the Hotel Dieu, and with poor results, it would seem. Dr. Hallopeau has used it at the St. Louis Hospital against lupus, and has obtained no result. Dr. Lucas Championniere employed it in 5 cases of bony tuberculosis, and considered it did not act differently from other sera. Experiments carried on in guinea-pigs were unsatisfactory. In one of the hospitals a case of Pott's disease and one of consumption died while being subjected to this treatment at the very same hour. The symptoms observed were those of cyanosis and asphyxia. The medical editor of the *Matin* has written an editorial on the serum of Marmorek in which he does not seem to be very partial to him, Koch's fiasco being brought up as a warning. It should be remembered that Marmorek's anti-streptococcic serum was looked on with disfavor when first brought out, and it has never been accepted here in Paris by the majority of prominent medical men.

Dieulafoy's Views.

On December 1, Professor Dieulafoy gave the results in his service furnished by the use of Marmorek's serum. During August, September and October, 1902, 7 tuberculous patients were treated by this serum; 4 patients were suffering from ordinary pulmonary tuberculosis, 2 had laryngeal and pulmonary tuberculosis, and lastly 1 was affected with pleural tuberculosis followed by an effusion. Marmorek made the injections himself, determined the doses, and repeated the doses as often as he wished. The quantity of serum injected was about 5 to 10 c.c., and the injections were made each day, every other day, or at wider intervals. Dieulafoy examined carefully the patients, auscultated them frequently, had minute observations taken, and found the following results: 1. The serum did not seem to have any effect on the fever, and one patient, who had had no fever, showed a high temperature after the first injections. 2. The serum did not seem to have a beneficial effect on the sputum, which increased in quantity as much as two or three times in some cases. 3. The serum does not seem to have had a favorable action on the tuberculous lesions, and in some cases, pulmonary or pleural lesions appeared during the course of the treatment. 4. The serum does not seem to have had a favorable effect on the nutrition, as these patients continued to lose flesh and sometimes rapidly, notwithstanding overfeeding. Dieulafoy, on these reasons, asked Marmorek to discontinue his injections. Of the 7 patients treated in this manner 5 are already dead. Their clinical history is as follows: A case of fibrous tuberculosis without fever is still alive in Dieulafoy's service. A case of pleurisy recognized by cytodiagnosis and inoculation to be of pleuritic nature, has come back to the hospital after a year, and has a large pulmonary excavation. Case of laryngeal and pulmonary tuberculosis: Treatment began Aug. 6, 1902. Died Oct. 2, 1902. Second case similar to the preceding one. Died in November, 1902. Lastly, 3 cases of ordinary pulmonary tuberculosis, who died in August, January and April, 1903. Experiments were also carried out on animals, two series of guinea-pigs being inoculated with sputum. The first series was injected with the serum and died before the second series, which had had no treatment. Such is the result observed by Professor Dieulafoy.

Comments of Other Observers.

Monod, the surgeon, has tried Marmorek's serum in his service and remarked that there had been an amelioration in all his cases, and that he was willing to continue his experiments with this serum. Le Dentu, a genito-urinary surgeon, had tried it in one case, and the patient was injected 12 to 15 times. As there was no improvement, the treatment was stopped. Dr. Hallopeau also tried this treatment on seven patients affected with tuberculous lesions of the skin, and there was no amelioration, but new foci formed around old lesions.

Correspondence.

Tuberculosis Congresses.

CHICAGO, Dec. 12, 1903.

To the Editor:—Your editorial in the last number of THE JOURNAL on "Tuberculosis Congresses" is most timely, and it is to be hoped that it will prevent misunderstandings in the future. Those actively working in the local associations for

the prevention of tuberculosis have so far not cared to define their position in regard to these so-called "American" congresses; their time has been more usefully employed in perfecting their organization and preventative methods, and no doubt in time this will bring about the formation of a national body for the purpose of standardizing and generalizing their measures. It is indeed unfortunate that any number of men can combine and call themselves "American Congress" and by virtue of that name alone, not only persuade the unsuspecting medical and lay public of its representative character, but even as in the case of the "Bell Congress" receive the sanction and assistance of the Government. The pathetic in this case is more striking than the humorous, because as you have justly pointed out, the impression abroad is that this planned congress is of a representative character and that preparations are made to send delegates to it. I have had several inquiries in regard to this, and only a few days ago I received a letter from Dr. Pannwitz, secretary general of the International Central Bureau for the Prevention of Tuberculosis (representing sixteen countries) inquiring about these congresses, and expressing the hope that America would be definitely represented in the international movement against tuberculosis after the congress to be held in St. Louis. Such misunderstandings, brought about by the announcements of these congresses, must have the effect of minimizing the importance of the movement, and it does not matter whether the promoters of the scheme have good or evil intentions, they are in no way qualified to represent American work and thought in the antituberculosis crusade.

The most important tuberculosis associations which are doing active work in this country are the following:

BOSTON: Association for the Relief and Control of Tuberculosis, 43 Hawkins Street, Harold K. Estabrook, secretary.

NEW YORK: Committee on the Prevention of Tuberculosis of the Charity Organization Society, 105 East 22d Street, Paul Kennedy, secretary.

PHILADELPHIA: The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, Dr. Lawrence F. Flick, medical Director.

BALTIMORE: The Tuberculosis Commission of Maryland, 10 South Street, Dr. M. L. Price, medical officer.

CHICAGO: Committee for the Prevention of Tuberculosis of the Visiting Nurse Association, 79 Dearborn Street, Dr. Wm. A. Evans, secretary.

These associations have, through their officers and members, a truly representative character in their respective cities. They reach a very large number of consumptives and so can apply preventative measures, educational and other, in an efficient manner, wherever most needed. They are also working in close co-operation with health boards and charity organizations, thereby greatly increasing their importance. The "American Congresses" have nothing to do with these working bodies, they are satisfied with themselves, their announcements and letterheads, which as far as we can discover are their only weapons in the fight against tuberculosis.

It is to be hoped that your editorial will prevent some unsuspecting members of our profession from being persuaded to consent to serve as officers of these congresses, and I feel certain that your efforts will have the unanimous approval of all those actively interested in the movement.

ARNOLD C. KLEBS.

79 Dearborn Street.

Marriages.

CLIFTON L. GREEN, M.D., to Miss Bessie Hart, both of Utica, Miss., December 2.

ROBERT F. CAMPBELL, M.D., to Miss Gertrude C. Wallis, both of Chicago, December 10.

PAUL SORKNESS, M.D., to Miss Grace Marie Thacker, both of Fargo, N. D., December 2.

NOAH E. SUTTON, M.D., to BERTHA E. WIGGIN, M.D., both of Trenton, Mo., November 25.

WILFRED S. HALE, M.D., to Miss Helen Gould, both of Albany, N. Y., November 21.

JAMES W. ALLEN, M.D., to FRANCES D. EMERY, M.D., both of Dallas, Texas, November 30.

ALVIN CRAIG LEE, M.D., to Miss Hattie May Niman, both of Mansfield, Ohio, December 16.

LAWRENCE T. ROYSTER, M.D., Norfolk, Va., to Miss Ola Park, at Washington, D. C., December 9.

THOMAS D. ARMISTEAD, M.D., Roanoke, Va., to Miss Shelburne of Richmond, Va., December 6.

JOHN HENRY YOUNG, M.D., Cumberland, Wyo., to Miss Nancy May Boyer, at Carroll, Ohio, November 19.

R. G. CURTIS, M.D., Honolulu, Hawaii, to Miss Blair of New York, at Honolulu, Hawaii, November 16.

GEORGE WILLIAM PARKER, M.D., Chicago, to Miss Amy Josey of Calumet, Mich., at Chicago, December 1.

WILLIAM C. MCCAULEY, M.D., Versailles, Ky., to Miss Sara Smith Camp of Jackson, Mich., December 9.

BUDD CLARKE CORBUS, M.D., Chicago, to Miss Julia Gertrude Pitkin of Benton Harbor, Mich., December 15.

LESTER EFIRD, M.D., Leesville, S. C., to Miss Georgia Constance Rights of Winston-Salem, N. C., November 25.

JOHN FRANKLIN WOODWARD, M.D., Norfolk, Va., to Miss Martha Washington Philips of Tarborough, N. C., December 16.

JESSE RALPH HARRIS, M.D., U. S. Army, Fort Meyer, Washington, D. C., to Miss Belle Agnes Miller of Buffalo, December 2.

Deaths.

William Ingalls, M.D. Harvard University Medical School, Boston, 1836, surgeon of the Fifth and later of the Fifty-ninth Massachusetts Volunteer Infantry in the Civil War; for fifteen years surgeon at the Boston City Hospital; a member of the Massachusetts Medical Society, the Obstetrical Society of Boston, and other scientific bodies, and one of the best known of the older physicians of Boston, died in his apartments in Roxbury, December 1, after a short illness, aged 90.

John F. Meehan, M.D. Baltimore Medical College, 1894, who served in the Spanish-American War, and afterward in the hospital corps and as an acting assistant surgeon in the Army, died at his home in Urbana, Ohio, December 3, from skull-fracture due to a fall, November 26, aged 30.

Henry C. Utz, M.D. Louisville Medical College, 1891, a member of the American Medical Association, and one of the rising young practitioners of Hamilton County, Ind., died at his home in Atlanta, December 7, from pneumonia, after an illness of three weeks, aged 37.

Delano Gavin Brown, M.D. College of Physicians and Surgeons of Buffalo, N. Y., 1883, died at his home in Honeoye Falls, N. Y., November 30, after an illness of three months from Bright's disease, aged 50.

Horace M. Paine, M.D. University of the City of New York, 1849, of Albany N. Y., a member of the American Medical Association, died in Atlanta, Ga., December 5, from pneumonia, aged 76.

Calvin B. Phillips, M.D. Washington University School of Medicine, Baltimore, 1868, a member of the American Medical Association, died suddenly at his home in Cuero, Texas, December 6.

Virgil Kingsley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1877, died at his home in Carthage, Ill., December 4, after an illness of one week from pneumonia, aged 51.

Eugene Field Hume, M.D. College of Physicians and Surgeons in the City of New York, 1901, of Lexington, Ky., died at Richmond, Ky., December 3, from pneumonia, aged 28.

Katherine M. Crawford, M.D. Hahnemann Medical College, Chicago, 1885, of York, Pa., died in the York Hospital, December 2, after a surgical operation, aged 47.

Charles M. Fuller, M.D. Boston University School of Medicine, 1878, died at his home in Medfield, Mass., December 4, after a short illness, from pneumonia.

R. F. Julian, M.D., of Bloomington, Tenn., was shot and instantly killed while returning from a professional call at Baxter, Tenn., December 5, aged 45.

M. E. Gonzalez, M.D. Cooper Medical College, San Francisco, 1883, died suddenly from apoplexy at his apartments in San Francisco, December 6, aged 55.

Jean Bertrand Duchien, M.D. Académie de Montpellier, France, 1885, died recently from pneumonia at his home in Baton Rouge, La.

Joseph R. Schooling, M.D. University of Louisville, 1875, died at his home in Marrowbone, Ky., from paralysis, December 3, aged 50.

Edward C. Lyman, M.D. University of Michigan, Ann Arbor, 1892, died at his home in Flint, Mich., December 4, aged 28.

Charles McMyers, M.D. University of Maryland, Baltimore, 1894, died suddenly at Baltimore, December 4, aged 69.

James M. Van Dyck, M.D., died at his home in Dorchester, Mass., December 3, from morphin, self-administered.

Phineas Cleveidon, M.D. Eclectic Medical Institute, Cincinnati, 1899, died recently at Albuquerque, N. M.

E. Lee Ensign, M.D. Albany Medical College, 1856, died at his home in Erieville, N. Y., December 3, aged 73.

John R. Freed, M.D. University of Louisville, 1882, died at his home in Carthage, Mo., December 8.

Miscellany.

Value of Calabar Bean in Atony of Morphin Addiction.—O. Emmerich has been for twelve years in charge of a sanitarium for nervous diseases and drug habits at Baden Baden, and his experience has demonstrated that in morphin addiction there are three stages. In the first, the intestine is quieted by the morphin, inducing the familiar obstipation. Then follows a stage of tolerance in which the intestines may functionate comparatively normally. The third stage of the drug addiction brings atony, diminished glandular activity, in fact the gland and muscle tissue partially disappear and ptosis is pronounced. This last stage is the distinct indication for extract of the calabar bean according to the remarkable experiences he relates from his practice. None of the derivatives or other preparations of the bean are reliable, and he has had mishaps with them. He does not aim to afford temporary relief but to tone up the intestines so that other measures will be able to take hold. He finds that this toning up is not restricted to the intestines alone, but all the suspending ligaments, the bladder, the heart and the vessel musculature share in the benefits from it. He remarks that the action of the bean can be seen in the expulsion of an enema. When a pint of water injected in an old morphinist, which formerly could be retained for ten to fifteen minutes without effort, is spontaneously expelled almost at once, the bean has accomplished its purpose and should be suspended. Then is the moment for mechanical and dietetic measures to take advantage of what has been gained in this way. The artificial toning up of the intestines is rendered permanent by appropriate physical measures. The patient is encouraged to take exercise, climb, and food given in abundance which will force the intestines to work, cooked fruits, etc. He has never derived any benefit from massage or abdominal bandages in such cases. He concludes his article in the *Allg. Med. Ct.Ztg.*, lxxii, p. 297, by urging others to try the extract of calabar bean in ptosis and atony from other causes than the drug habit.

State Boards of Registration.

COMING EXAMINATIONS.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Utah State Board of Medical Examiners, Salt Lake City, Jan. 4, 1904. Secretary, Dr. R. W. Fisher, Salt Lake City.

State Medical Examining Board of Washington, Tacoma, Jan. 5-6, 1904. Secretary, Dr. P. B. Swearingen, Tacoma.

Board of Medical Examiners of Arizona, Phoenix, Jan. 4-5, 1904. Secretary, Dr. Wm. Duffield, Phoenix.

State Medical Examining Board of North Dakota, Grand Forks, Jan. 5, 1904. Secretary, Dr. H. M. Wheeler, Grand Forks.

Board of Medical Examiners of the State of Oregon, Portland, Jan. 5, 1904. Secretary, Dr. Byron E. Miller, Portland.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Jan. 5-6, 1904. Secretary, Dr. S. D. Van Meter, Denver.

Minnesota State Board of Medical Examiners, State Capitol Bldg., St. Paul, Jan. 5-7, 1904. Secretary, Dr. C. J. Ringnell, Minneapolis.

State Board of Health of Rhode Island, State House, Providence, Jan. 7, 1904. Secretary, Dr. G. T. Swarts, Providence.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.
 Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.
 Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.
 Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.
 Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. P. Kennedy, Des Moines.

Utah Report.—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, November 6, at which 8 candidates were examined, all passing, on 10 subjects and 70 questions, the percentage required to pass being 75.

Colleges.	Year Grad.	Per Cent.
Starling Medical College, Columbus, Ohio.....	1885	77
Kansas City Medical College.....	1903	83
University of Vermont.....	1895	83
College of Physicians and Surgeons, San Francisco.	1902	85
University of California.....	1902	91
Rush Medical College, Chicago.....	1903	81
Rush Medical College, Chicago.....	1902	87
Marion Sims Medical College, St. Louis.....	1899	85

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers for the week ending Dec. 12, 1903:

Hansell, Haywood S., asst.-surgeon, granted thirty days' leave of absence.
 Rand, Irving W., asst.-surgeon, granted thirty days' extension to present leave of absence.
 Bispham, Wm. N., asst.-surgeon, granted fifteen days' leave of absence.
 Fisher, Henry C., asst.-surgeon, granted three months' leave of absence until Dec. 20, 1903.
 Shockley, M. A. W., asst.-surgeon, relieved from duty at Fort Niobrara, Neb., on expiration of present leave, and ordered to Manila, P. I.
 Byrne, Chas. B., asst.-surgeon general, Dec. 2, 1903, announced as chief surgeon, headquarters, Department of the Missouri, Omaha.
 Steer, Samuel L., asst.-surgeon, granted twenty one days' leave of absence.
 Shillock, Paul, surgeon, granted four months' leave with permission to go beyond sea.
 Polhemus, A. S., surgeon, leave extended thirty days.
 Torney, Geo. H., deputy surgeon general; Brechemin, Louis, and Stephenson, Wm., surgeons, and Kennedy, Jas. M., asst.-surgeon, appointed members of a board of medical officers to meet at the U. S. General Hospital, Presidio of San Francisco, at the call of the president of the board, for examination of candidates for admission to the Medical Corps of the Army.
 Banister, Jno. M., Carter, Wm. F., Raymond, H. I., Bradley, A. E., surgeons, and Kirkpatrick, Thos. J., asst.-surgeon, appointed members of a board of medical officers to meet in Manila, P. I., for the examination of candidates for admission to the Medical Corps of the Army.
 Bourke, James, asst.-surgeon, relieved from duty at Fort Sheridan, Ill., and ordered to Chicago for temporary duty as attending surgeon and examiner of recruits in that city.
 Purviance, Wm. E., asst.-surgeon, granted two months' leave of absence.
 Ekwurzel, Geo. M., asst.-surgeon, assignment to station at Fort Banks, Mass., revoked.
 Cox, Walter, asst.-surgeon, assignment to station at Fort Reno, Okla. Territory, revoked.
 Farr, Charles W., asst.-surgeon, assignment to station at Fort Mason, Cal., revoked.
 Girard, Joseph B., asst.-surgeon general, announced as chief surgeon, headquarters, Department of Texas, San Antonio, Texas.
 Banta, Wm. P., asst.-surgeon, granted thirty days' leave of absence.
 Mason, Charles F., surgeon, relieved from temporary duty as chief surgeon, Department of Texas.
 Kendall, Wm. P., surgeon, left U. S. Army General Hospital, Presidio of San Francisco with party of insane en route to Government Hospital for the Insane, Washington, D. C.
 Slater, Ernest F., contract surgeon, on arrival at Fort Ethan Allen, Vt., with troops of the 15th Cavalry, is relieved from duty in the Division of the Philippines and directed to proceed to Fort Hancock, N. J., for duty.
 Sparenberger, Frederick H., contract surgeon, ordered to proceed from Denver to Fort Mott, N. J., for duty.
 Waterhouse, M. Manley, contract surgeon, relieved from duty at Fort Mott, N. J., on the arrival thereof of Contract Surgeon Sparenberger, and ordered to the Philippine Islands for duty.
 Artaud, Frank E., contract surgeon, ordered from Lake Providence, La., to the Philippine Islands for duty.
 Cornman, Leighton R., contract surgeon, ordered from Lowell, Mass., to Fort Sheridan, Ill., to accompany troops of the 2d Cavalry thence to Philippine service.
 Hughes, Leonard S., contract surgeon, granted two months' leave from the Division of the Philippines, with permission to visit the United States and to apply for an extension of one month.
 Ramsey, William H., contract surgeon, assigned December 9 to duty as attending surgeon and examiner of recruits at Omaha.

Pinquard, Joseph, contract surgeon, ordered from Vinalta, Ind. Ter., to the Philippine Islands for duty.
 Prentice, Arthur D., contract surgeon, ordered from San Francisco to the Philippine Islands for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 12, 1903:

Wheeler, W. M., surgeon, ordered to the Navy Yard, Puget Sound, Washington, and also on board the *Nipsic*.
 Thompson, J. C., P. A. surgeon, detached from the Navy Yard, Puget Sound, Wash., and ordered to the *Albatross*.
 Butler, C. S., asst.-surgeon, detached from the *Albatross* and ordered home to wait orders.
 Peck, C. S., asst.-surgeon, detached from the *Iris* and ordered home and to wait orders.
 Percy, H. T., surgeon, detached from the *Indiana* and ordered to the *Itasca*.
 Jenness, B. F., asst.-surgeon, detached from the *Indiana* and ordered to the *Itasca*.
 Brownell, C. D. W., surgeon, ordered to the *Amphitrite*, with additional duty at the naval station, Guantanamo, Cuba.
 Pickrell, G., surgeon, ordered to additional duty in charge of the naval hospital, San Juan, P. R.
 McDonnell, W. N., A. A. surgeon, detached from the Naval Academy and ordered to the *Glacier*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the 14 days ended Dec. 10, 1903:

Sawtelle, H. W., surgeon, to inspect unserviceable property at Stapleton, N. Y.
 Guterres, G. M., surgeon, on completion of duties at Laredo, Texas, to rejoin station at Cairo, Ill.
 Gardner, C. H., P. A. surgeon, relieved from duty at the Immigration Depot, New York, and directed to proceed to Key West, Fla., and assume command of the service at that port.
 Oakley, J. H., P. A. surgeon, to proceed to Seattle, Wash., and assume temporary charge of service at that port, relieving A. A. Surgeon C. B. Ford.
 Von Ezdorf, R. H., P. A. surgeon, detailed as inspector of certain points on Mexican National and Mexican Gulf railroads.
 Lumsden, L. L., P. A. surgeon, Bureau letter granting leave of absence for ten days, amended so that said leave shall be for six days from November 15.
 Fricks, L. D., P. A. surgeon, granted extension of leave of absence for one month from December 1.
 Kerr, J. W., asst.-surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of P. A. surgeon.
 Richardson, T. F., asst.-surgeon, relieved from temporary duty in Texas and directed to rejoin station at New Orleans.
 Goldberger, Jos., asst.-surgeon, relieved from temporary duty at Laredo, Texas, and directed to report at the Bureau, Washington, D. C.
 Amesse, J. W., asst.-surgeon, to proceed to Seattle, Wash., and assume command of the service at that port, relieving P. A. Surgeon J. H. Oakley.
 Glover, M. W., asst.-surgeon, relieved from duty at Baltimore, and directed to proceed to Victoria, B. C., for immigration duty.
 Burkhalter, J. T., asst.-surgeon, granted leave of absence for one month from December 3.
 Ebersole, R. E., asst.-surgeon, relieved from duty in Texas, and directed to rejoin his station at Gulf quarantine.
 Foster, A. D., asst.-surgeon, relieved from duty at Charleston, S. C., and directed to proceed to Baltimore for immigration duty.
 Brown, F. L., pharmacist, directed to rejoin his station at Pittsburgh, Pa.
 Waterlius, M., pharmacist, relieved from temporary duty at Laredo, Texas, and directed to rejoin station at St. Louis.
 Brooks, S. D., surgeon, to proceed to Brunswick, Ga., and assume temporary command of station.
 McMullen, John, P. A. surgeon, relieved from duty at Hongkong, China, and directed to proceed to San Francisco and report arrival by wire.
 Parker, H. B., P. A. surgeon, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.
 White, M. J., P. A. surgeon, relieved from duty at Honolulu, T. H., and directed to proceed to Hongkong, China, for duty.
 Richardson, T. F., asst.-surgeon, granted leave of absence for seven days from Dec. 6, 1903, under paragraph 191 of the regulations.
 Amesse, J. W., asst.-surgeon, to proceed to Seattle, Wash., and assume command of the service at that port. Granted leave of absence for one day.
 Berry, T. D., asst.-surgeon, detailed as inspector of unserviceable property at Cleveland, Ohio. To proceed to Cairo, Ill., and assume temporary command of service at that port during absence of Surgeon G. M. Guterres.
 Ebersole, R. E., asst.-surgeon, relieved from duty at Gulf Quarantine Station, and directed to proceed to Tampa Bay Quarantine Station and assume command.
 Ebert, H. G., asst.-surgeon, granted leave of absence for four days from Nov. 28, 1903, under paragraph 191 of the regulations.
 Smith, E. G., asst.-surgeon, to proceed to Santa Clara, N. Y., for special temporary duty to examine aliens.
 Bready, J. E., A. A. surgeon, granted leave of absence for two days from December 15.
 Gregory, G. A., A. A. surgeon, granted leave of absence for seven days from December 5.
 Ryder, L. W., pharmacist, granted leave of absence for 15 days from December 10.

CASUALTY.

Burford, Hugh, A. A. surgeon, died at Brunswick, Ga., Dec. 7, 1903.
 Murray, S. D., surgeon, died at Laredo, Texas, Nov. 22, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 11, 1903:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 22-29, 1 case.
Maine: Madawaska Tp., Nov. 1-30, 65 cases.
Michigan: Detroit, Oct. 31-Nov. 5, 3 cases; 37 localities, Nov. 21-28, present.
Mississippi: Natchez, Nov. 29-Dec. 6, 11 cases.
Missouri: St. Louis, Nov. 28-Dec. 5, 2 cases.
New Hampshire: Manchester, Nov. 29-Dec. 5, 2 cases.
New Jersey: Camden, Nov. 29-Dec. 5, 3 cases, 1 death.
New York: New York, Nov. 29-Dec. 5, 1 case, 1 death.
Ohio: Cincinnati, Nov. 27-Dec. 4, 5 cases; Nov. 28-Dec. 5, Dayton, 1 case; Youngstown, 19 cases.
Pennsylvania: Nov. 28-Dec. 5, Erie, 13 cases; Johnstown, 7 cases; McKeesport, 1 case; Nov. 29-Dec. 5, Philadelphia, 99 cases, 15 deaths; Pittsburg, 28 cases, 6 deaths, 1 imported.
Tennessee: Memphis, Nov. 29-Dec. 5, 5 cases.
Utah: Salt Lake City, Nov. 21-28, 2 cases.
Wisconsin: Milwaukee, Nov. 14-28, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Oct. 10-24, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 7-21, 16 cases.
Belgium: Brussels, Nov. 7-14, 2 deaths.
Brazil: Rio de Janeiro, Oct. 25-Nov. 8, 89 cases, 59 deaths.
Chile: Antofagasta, Oct. 1-31, 13 deaths.
Colombia: Barranquilla, Nov. 15-22, 1 death.
France: Paris, Nov. 7-21, 10 cases, 1 death.
Great Britain: Glasgow, Nov. 13-27, 38 cases, 5 deaths; Newcastle-on-Tyne, Oct. 31-Nov. 21, 8 cases; Nottingham, Nov. 14-21, 1 death.
Italy: Catania, Nov. 12-19, 5 deaths.
Malta: Oct. 31-Nov. 7, 1 case.
Russia: Nov. 7-14, Moscow, 5 cases, 3 deaths; St. Petersburg, 54 cases; Odessa, Nov. 7-21, 4 cases, 2 deaths.
Turkey: Constantinople, Nov. 8-15, 1 case; Smyrna, Nov. 1-15, 29 deaths.
Venezuela, Oct. 26, Guarico District, epidemic; Pascua District, epidemic; Tucupido District, epidemic.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 1-7, 2 cases.

YELLOW FEVER—FOREIGN.

Mexico: Nov. 15-21, Ciudad Victoria, 5 cases, 4 deaths; Linares, 29 cases, 4 deaths; Marida, 5 cases, 2 deaths; Nuevo Laredo, 1 death; Tampico, 2 cases, 2 deaths; Tehuantepec, 1 case.
Venezuela: Oct. 16, Barquisimeto, present; Tucuyo, present.

CHOLERA—INSULAR.

Philippine Islands: Oct. 10-24, Manila, 60 cases, 57 deaths; Provinces, 1,700 cases, 1,384 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Oct. 24-31, 19 deaths.
Strait Settlements: Singapore, Oct. 17-24, 12 deaths.
Turkey in Asia: to Nov. 9, Aintah, 9 cases, 4 deaths; Aleppo, 16 cases, 15 deaths; Anah, 51 cases, 93 deaths; Antioch, 7 cases, 7 deaths; Birodjik, 4 cases, 4 deaths; Damascus, 2 cases, 2 deaths; Dolonki, 11 cases, 11 deaths; Haifa, 7 cases, 5 deaths; Urfa, 4 cases, 2 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Oct. 10-24, 3 cases, 2 deaths.

PLAGUE—FOREIGN.

Australia: Perth, Oct. 13, 1 case.
Brazil: Para, Nov. 1-8, 2 cases; Rio de Janeiro, Sept. 28-Oct. 18, 124 cases, 53 deaths.
Chile: Iquique, Sept. 1-30, 12 cases, 7 deaths.
Egypt: Alexandria, Oct. 31-Dec. 6, 2 cases, 3 deaths.
India: Calcutta, Oct. 24-31, 19 deaths.
Japan: Yokohama, Oct. 17-24, 3 cases; 4 deaths.
Mauritius: Oct. 29-Nov. 5, 72 cases, 36 deaths.

Medical Organization.

California.

BUTTE COUNTY MEDICAL SOCIETY.—Pursuant to call, physicians of the county met at Chico, November 28, and organized a society to be in affiliation with the state and national organizations. Dr. Oscar Stansbury, Chico, was elected president; Dr. Eli A. Kusel, Oroville, vice-president, and Dr. D. H. Moulton, Chico, secretary and treasurer. A committee was appointed to frame a constitution and by-laws, and to report on same at the next meeting, December 19.

Illinois.

PUTNAM COUNTY MEDICAL SOCIETY.—This society was organized at McNabb, November 28, with the aid of Dr. William O. Ensign, Rutland, councilor for the Second District.

Indiana.

POSEY COUNTY MEDICAL ASSOCIATION.—This society held its annual meeting at Mount Vernon, November 24, made plans for reorganization, and applied for a new charter. Dr. Jerome M. Gloze, New Harmony, was elected president, and Dr. F. Leslie Stallings, Caborn, secretary.

BOONE COUNTY MEDICAL SOCIETY.—The Boone County Medical Society held a business session and banquet at Crawfordsville, December 3. Dr. Paul J. Barcus, Crawfordsville, councilor for the Ninth District, explained the standard plan of reorganization, which was adopted unanimously.

BLACKFORD COUNTY MEDICAL SOCIETY.—This society met at Hartford City, November 26, and reorganized on the standard plan under the direction of Dr. Robert Hessler, councilor for the Eleventh District. Dr. Manford M. Clapper was re-elected president, and Dr. Eneidas K. Scott, secretary, both of Hartford City.

Iowa.

BOONE COUNTY MEDICAL SOCIETY.—The first annual meeting of this society was held at Boone, December 2. The following officers were elected: Dr. William L. Pollock, president; Dr. G. Henry Nordstrom, secretary; Dr. Edward M. Myers, treasurer, and censors, Drs. George D. Rowe, James C. Walker and George H. Stanger, all of Boone.

CLARKE COUNTY MEDICAL SOCIETY.—This society was organized, November 5, on the standard plan, with 13 members. The following officers were elected: President, Dr. J. Frank Aldrich, Murray; vice-president, Dr. Frederick S. Bowen, Woodbury; secretary, Dr. John L. Millard, Osceola; treasurer, Dr. William O. Parrish, Osceola, and delegate, Dr. J. Frank Aldrich, Murray. Dr. Frank E. Sampson, Creston, councilor for the Eighth District, was present and explained the plan of reorganization.

Maryland.

WICOMICO COUNTY MEDICAL SOCIETY.—Physicians of the county met at Salisbury, December 5, and organized a society on the standard plan with 15 charter members and the following officers: Dr. Francis M. Siemons, Salisbury, president; Dr. Eugene W. Humphreys, Salisbury, secretary and treasurer, and Dr. Harry C. Tull, Tyaskin, vice-president, and delegate to the state convention.

Minnesota.

DAKOTA COUNTY MEDICAL SOCIETY.—This society was organized at Hastings, December 3, on the standard plan, with the following officers: President, Dr. Alfred M. Adsit, Hastings; vice-president, Dr. Lewellyn D. Peck, Hastings; secretary, Dr. Warren M. Dodge, Farmington; treasurer, Dr. Julius C. Fitch, Hastings; censors, Drs. Charles O. Van Cappellen and Henry G. C. Van Beeck, Hastings, and one to be chosen, and state delegate, Dr. Alfred M. Adsit, Hastings. Dr. William S. Fullerton, St. Paul, state organizer, aided in the reorganization.

Oregon.

CENTRAL WILLAMETTE MEDICAL ASSOCIATION.—The physicians of Linn, Benton and Lincoln counties met at Albany, December 3, and effected a permanent organization on the standard plan, and elected the following officers: Dr. James P. Wallace, Albany, president; Dr. Henry S. Pernot, Corvallis, vice-president; Dr. August Stark, Albany, treasurer; Dr. William A. Trimble, Albany, secretary, and Drs. Thomas C. Mackey, Harborsburg, George R. Farra, Corvallis, and Albert G. Prill, Icio, censors.

Society Proceedings.

COMING MEETING.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

ACADEMY OF MEDICINE OF CLEVELAND.

Sixth Regular Meeting of the Section on Experimental Medicine, held Nov. 13, 1903.

Dr. John G. Spenser, Chairman of the Section, in the Chair.

Experimental Study of Caisson Disease.

DR. J. J. R. MACLEOD read a paper entitled "Caisson Disease and Diver's Palsy, an Experimental Study," based on experiments performed during the last year at the London City Hospital Laboratories in England, in collaboration with Leonard Hill, F.R.S., on grants from the Royal Society.

Dr. Macleod stated that animals subjected to several atmospheres pressure of air may die, either when under the pressure or when they are decompressed. The second is the commoner cause of death. Experiments showed that air embolism is the invariable cause of death from decompression. The symptoms preceding death are dyspnea, cyanosis, and

violent convulsions. Animals with these symptoms were saved by reapplying the air pressure and decompressing more slowly.

In the case of dogs weighing about ten kilos a little over an hour was found necessary for the tissue fluids to become saturated with gas, and about the same time had to be used in decompression to admit of the liberation of this gas without the formation of bubbles (air emboli). These facts were confirmed by analyses of the blood gases, O_2 , CO_2 , and N , in dogs placed under various air and oxygen pressures. With all possible care to prevent decompression palsy, it was nevertheless found that the animal might die while under pressure. Two factors are found to depress the vitality of animals under pressure: 1. Oxygen poisoning. 2. Excessive loss of body heat. That free oxygen is a poison was shown by numerous experiments. Even at atmospheric pressure, the animals breathing it show a distinct fall in the amount of carbon dioxide and water excreted by the lungs and a fall of rectal temperature. At several atmospheres pressure the toxic action becomes very marked. The symptoms are pneumonia and convulsions. Thus a mouse placed in one and a half atmospheres of pure O_2 died of pneumonia in sixty hours, the entire lung being hepatized. At six atmospheres pressure death occurred in two hours, being preceded by violent epileptiform convulsions, and the lungs at autopsy were found to be studded with patches of pneumonia. Below three and a half atmospheres no convulsions were noticed, and at pressures above six atmospheres they were replaced by a comatose state, soon followed by death. These experiments were conducted on a number of animals, and it was found that the larger the animal the less prone it was to the toxic action of oxygen.

That oxygen poisoning is a factor to be considered in compressed air was shown by the fact that the carbon dioxide excretion is depressed and that pneumonia frequently occurs in animals subjected to it. A cat in eight atmospheres pressure of air died in twenty-four hours, its lungs being pneumonic. No convulsions, however, were observed, and it was pointed out that pneumonia could only seldom occur in divers as a result of air pressure, as sufficiently high pressure was not employed in ordinary work, and when employed, as in deep sea diving, the shifts were sufficiently short to avoid danger. The second cause of death, excessive loss of body heat, was shown to depend on the increased heat conductivity of compressed air *per se*, and on the fact that it is saturated with moisture. The enormous influence of this factor, i. e., the cooling effect of wet air, was demonstrated as well by another series of experiments on mice. If these be placed in an atmosphere of water-saturated air, the body temperature soon falls to that of the chamber, the carbon dioxide excretion showing a corresponding fall. A detailed account of experiments is given in the current volume of the *Journal of Hygiene* (Cambridge, England).

The Clinical Side of Caisson Disease.

The next paper was read by DR. CHAS. ALDRICH on "Caisson Disease, from the Clinical Standpoint." After a summary of the history of the disease, Dr. Aldrich cited a number of cases, discussed the symptomatology, and commented on the value of the various precautions taken in caisson work to prevent injury to the workmen.

DISCUSSION.

DR. FRANK ROTH, who had spent eight months on the Cleveland crib as physician, and had done special work on the clinical side of caisson disease, stated that of hundreds of men, both experienced and inexperienced, not one showed any symptoms while in the compressed air, all these being delayed until the change to the normal pressure. The temperature varied in the tunnel according to the temperature of the contained air, but within narrow limits. On locking out there was a slight fall, especially noted in the new men, never to a point below 97. The pulse was usually slowed on entrance into the compressed air, but when work began it reached normal or above. On exit, however, there was in many of the men a very marked change. The pulse of these men, who were for the most part new to the work, became rapid, soft and almost imperceptible, the old hands in the majority of cases showing no marked change beyond an increase in the frequency. Those in whom

these changes were most apparent were the ones to suffer most from the "bends."

The respirations increased in rate and depth, and most of the experienced hands had a greater or less degree of chronic emphysema. On locking out there was a sense of faintness and dizziness, the respirations becoming hurried, making the men fairly gasp for breath. This only occurred when the locking-out process was rapid. Dr. Roth stated that there was a great variety in the pains and other symptoms experienced, some of them very evanescent, the others of longer duration. The typical pains were at first fleeting, later localized, usually in the epiphysis of the long bones, with a boring and throbbing character, synchronous with the pulse, which becomes hard and rapid. There is at this point a rise of one or two degrees of temperature.

The more evanescent symptoms, disappearing in the course of a few minutes or half an hour, are also varied. Vertigo, fainting, headache, persistent vomiting, and even complete blindness are not uncommon. Some cases showed deficiencies in the surface circulation, at times associated with loss of reflexes, in others there was a temporary hemiplegia, paraplegia or monoplegia. This paraplegia sometimes came on later as the pains faded away. Severe pains in the epigastrium were noted, and in fat men in the larger muscles, of comparatively brief duration in both cases. Ten cases of a measly hyperemic rash, of half an hour duration, were noted.

Of greatest interest, perhaps, were three cases in which interstitial emphysema was noted. One of these was under the fascia lata, one in the gluteal region, and one in the calf of the leg. In another case gas emboli were seen in one of the veins of the wrist. These bubbles were four in number and were brought together by pressure, remaining visible for twenty minutes.

In some cases hyperesthesia was present for some time after the subsidence of other symptoms. One man fell in a typical epileptic fit after locking out, and denied any personal or family history of that disease.

The form known as the "chokes" appeared in groups of cases and appeared to be more frequent in the mason's shift, when the air was filled with dry cement. Attacks of this were often precipitated by smoking. Emetics gave prompt relief, and it was Dr. Roth's opinion that the attacks were due to a spasm of the glottis.

In the four deaths which occurred all were of the cerebral variety. In the 133 cases observed 68 per cent. had the pains alone, the other 32 per cent. being fairly divided among the other varieties.

The mules were at first locked out with the men, but it was found that this resulted in a mortality of at least one a day, and the experiment was tried of keeping them constantly at the high pressure. This was very successful, nine mules being kept under pressure for nine weeks, and then gradually locked out, the process taking 48 hours. None of these showed any inconvenience, eating twice as much and seeming much more lively than when in the open air. It was noted, however, that in spite of the amount eaten they grew steadily thinner. On the other hand, a horse which had been kept under pressure for almost a year and was then locked out in a very few minutes died at once. Animals frequently urinated and defecated during the process of locking in.

DR. W. T. HOWARD, JR., stated that in the autopsies which he had performed on cases of "bends," there was gaseous emphysema of varying degree, with bubbles in the brain and cord. He also stated that he had found definite hemorrhages on section of these tissues.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held Dec. 3, 1903.

The President, Dr. Andrew H. Smith, in the Chair.

The Cleaning of a Great City and the Handling of Its Waste.

DR. JOHN M. WOODBURY, commissioner of street cleaning, gave the members of the New York Academy of Medicine an interesting talk on this subject, illustrating it with many lantern slides. He said that while large sections of the

boroughs of Brooklyn and the Bronx were swept by means of mechanical sweepers, these machines could not be used in streets having heavy traffic. In the crowded streets the work could only be done by individuals of the street-cleaning brigade. The French had learned long ago that the only effective way to remove the gum and dirt from asphalt streets was by washing with hose, and in certain sections of this city that method was employed when the temperature of the air was above 45 F. The work could be more rapidly and effectively done by using wagons provided with a tank of compressed air and a portable plant for compressing the air. It is difficult, however, to prevent the scattering of dust.

The old method of dumping the city refuse out in the sea was abandoned last March, and consequently the nearby sea-side resorts are no longer made unpleasant and unsanitary by the floating in on the shore of all sorts of refuse. The old method cost \$300 per week; at the present time, the city rents the privilege of picking over the rubbish as it passes along the belt conveyor, for the sum of \$250 per week, with \$50 for labor. Moreover, the rubbish which is unsalable is burned under the boilers and produces 250 horse power per hour. It was calculated that by these improvements there had been realized a gain of 400 per cent. on the \$20,000 invested in this experimental plant. The garbage is kept separate from the rubbish and ashes and is disposed of by contract to the reduction works on Barren Island. Here it is exposed in digesters to a temperature of 300 F. and to a steam pressure of over 80 pounds, after which it is subjected to hydraulic pressure. The dried sweepings of the streets prove to be a very valuable fertilizing material, for which a ready sale is found. As the ashes are kept free from garbage and rubbish they make good material for filling in land. In this way, he had reclaimed from the borders of Riker's Island no less than 63 acres of land.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pneumonia.

The following combination is recommended by *Med. Rev. of Reviews* in the treatment of pneumonia in the early stage, occurring in children:

R. Potassii citratis	3iiss	6
Spts. etheris nitrosi	3vi	24
Liq. ammon. acetatis	3i	30
Syr. tolutani		
Aquæ, aa; q. s. ad	3iv	120

M. Sig.: One dessertspoonful every three hours to a child of three years.

During the stage of expectoration the following combination is recommended for a child of the same age:

R. Ammon. carb.	gr. xlviii	3|20
Ammon. iodidi	gr. xxiv	1|65
Syr. tolutani		
Syr. acaciæ, aa, q. s. ad	3iii	90

M. Sig.: One teaspoonful every two or three hours.

Inhalations of Formalin.

Spengler, in *Boston Med. and Surg. Jour.*, recommends for malin inhalations in pulmonary tuberculosis and fetid bronchitis prepared after the following formula:

R. Formalin	m. lxxv	5
Alcoholis (absolute)	3v	20
Spts. etheris	3iiss	75

M. Sig.: Place ten drops in a tumbler and take ten or twelve deep inspirations, the mouth being removed from the glass to exhale. The first inhalations should be superficial

and the latter ones deep. Inhalations are made every other day at bedtime, and stopped after two weeks, to be resumed in a few days and continued as before.

Hemorrhages in Typhoid Fever.

G. A. Sheldon, in *Med. Standard*, recommends the following combinations to control the hemorrhages in typhoid fever:

R. Ext. ergotæ flu.	m. x	65
Morph. sulph.	gr. 1/4	015
Atropinæ sulph.	gr. 1/150	0004

M. Sig.: To be used at one dose hypodermically.

At the same time he administers 15 minims of a solution of adrenalin chlorid (1-1,000), and repeats it in twelve-drop doses every four hours.

As an intestinal antiseptic he recommends sodium sulphocarb. After the second week the following combination is given as an antiseptic and to allay as much as possible the tympanitis:

R. Olei terebinthinæ	3ii	8
Olei gaultheriæ	gr. xii	75
Pulv. acaciæ	3vi	24
Syr. simplicis	3iiss	45
Aquæ	3vi	180

Misce and filter. Sig.: One dessertspoonful in a little water every four hours.

To remove the sordes from the teeth and to cleanse the mouth the following is used:

R. Tinct. myrrhæ	3iiss	6
Glycerini	3iii	90
Succi limonis	3i	4
Aquæ q. s. ad	3vi	180

M. Sig.: To be used as a mouth wash.

Treatment of Acute Gonorrhea.

In an article in *Chicago Med. Recorder*, F. Kriesel speaks against the irrigation method in the treatment of acute gonorrhea, but in its stead recommends the use of an alkali to render the urine alkaline as an aid in removing the discharge and the attendant toxins. He condemns the use of too strong antiseptic solutions because of the dangers of rendering harm to the mucous membrane. He prefers as antiseptics and astringents, silver nitrate, protargol and ichthargin, used in dilute solutions at short intervals, retained for a few minutes and gradually increased in strength; used at longer intervals and retained for a longer period—for five, ten or fifteen minutes—after the inflammatory symptoms have subsided. During the first few days of the attack the injections should be used during the night also, so as not to lose the good obtained during the day. As much should be injected each time as the urethra will hold. He emphasizes the fact that a gonorrheal discharge will not dry up by using a silver salt as long as the gonococcus is present and not even then, as the silver salt always produces more or less reactive secretion in proportion to its concentration. Therefore, he recommends the use of the microscope to indicate when to give a slight astringent and to discard the gonocide. In general the following outline of treatment may be pursued, according to the author:

During the first two days and nights, injections with protargol $\frac{1}{4}$ to 1 per cent., or ichthargin one grain to six ounces every two hours, to be retained two minutes. During the next three days protargol, the same solution, every three hours, retained three minutes. The following four days protargol $\frac{1}{2}$ per cent., or ichthargin two grains to six ounces, every four hours, to be retained five minutes. On the tenth day no injection in the morning. The silver salt may then ordinarily be reduced to one injection daily and retained for ten minutes, and as a substitute the following astringent and mild antiseptic may be prescribed:

R. Zinci sulphocarb.	gr. v	30
Resorcin	gr. xxx	2
Aq. destil	3vi	180

M. Sig.: Inject three times a day and retain for one or two minutes.

Reserve the silver solution for the time the patient is ready for bed. If at this time no gonococci are present the frequency and strength of the injection may be reduced, giving

only two injections daily and after a short time discontinued. If the secretion reappears with gonococci present return to the treatment of the third week, and if necessary increase the strength of protargol to a 2 per cent. solution or ichthargin $\frac{1}{2}$ of 1 per cent. Stronger solutions of these preparations should never be used, but if they prove ineffective, change off to silver nitrate irrigations of the anterior urethra, which should be done in the following way: Fill a sterile hand syringe with five ounces of a 1-1,000 silver nitrate solution, insert a sterile soft rubber catheter, No. 12 English, well lubricated with sterile glycerin into the anterior urethra and inject through this catheter. Repeat this treatment every other day for a few weeks and give the patient an astringent to use at home.

The following combinations are recommended by *Merck's Archives* in the treatment of gonorrhea:

R. Methylene blue	gr. xx	130
Copaiba	3ii	8
Olei resinae cubebae	3ii	8
Pancreatin	5i	4

M. Ft. cap. No. xxiv. Sig.: Two before each meal; or:

R. Largin	3ii	8
Aqua destil	5vii	210

Misce, by using boiling water. Sig.: To be used as an injection several times a day; or:

R. Largin	gr. xv	1
Glycerini	3ii	8
Aq. destil	3vi	180

M. Sig.: Inject three times daily for first few weeks, then once daily; or:

R. Ichthargin	gr. i-iv	106-25
Glycerini	3iv	15
Aq. destil. q. s. ad.	3viii	240

M. Sig.: Inject four to six times daily.

In cases of gleet and chronic gonorrhea the following:

R. Bismuthi subnit.		
Mucil. acaciae, aa.	3iv	15
Aqua	3iii	90

M. Sig.: Shake well and inject morning and evening; or:

R. Methylene blue		
Pulv. myristicae, aa.	gr. xl	265
Dionin	gr. x	65

M. Ft. capsulae No. xx. Sig.: One capsule three times a day.

Chloroform as a Teniafuge.

In the same periodical, Leger recommends the following, containing chloroform, as an efficacious remedy in the removal of tapeworm:

R. Spts. chloroformi	3i	4
Syrupis	3i	30
Aqua	3iv	120

M. Sig.: Two tablespoonfuls to be taken every hour until the entire amount is taken. Before the last dose, a purgative dose of castor oil or tincture of jalap is prescribed.

S. P. Gerhard, in *Med. Record*, recommends, in the removal of tapeworm, a combination of male fern and pelletierine as the most suitable remedy. The patient is instructed to take a good cathartic such as castor oil or salts the day previous to taking the teniafuge. The following morning, as early as possible, a dose of pelletierine tannate, grains 20 (1.30), is taken in two capsules at one dose. When this has operated freely, in about two hours, the following treatment is begun:

R. Oleires. aspidii		
Spts. etheris, aa.	3ii	8
Hydrarg. chloridi mitis	gr. xii	75

M. Ft. cap. No. xvi. Sig.: Two every ten minutes. No food should be taken during this treatment and the worm will be passed in the course of two or three hours.

Toxic Symptoms of Aspirin.

Although aspirin is now very extensively prescribed, the fact should not be overlooked that it may produce toxic symptoms. Dr. Franke, in *Ther. Monat.*, states that after he had taken 15 grains of aspirin to relieve pains in the calves of his legs, within fifteen minutes he noticed marked swelling of the upper lip, which quickly spread over the entire face, followed by difficulty in deglutition, frequent respiration and a pulse

rate of 160. These symptoms gradually subsided after twenty minutes, and was succeeded by the appearance of an urticarial rash over the entire body. By the next morning the symptoms had all subsided except the swelling of the lips and eyes. He states that the poisoning was produced by some chemical change in the stomach, phenol being set free and absorbed.

Tuberculous Adenitis.

The treatment of tuberculous adenitis varies with the degree of involvement of the ganglion, according to Broca, in *Med. Press and Cir.* When the ganglion commences to hypertrophy from the infection the treatment should be directed toward the general condition of the patient by the use of iodine, arsenic, iron, phosphate of calcium, together with proper elimination and pure seaside air. A certain number of local remedies are of value, such as cutaneous revulsion, applications of tincture of iodine and interstitial injections of iodine, silver nitrate, zinc chlorid, Fowler's solution, iodoform and ether and camphorated naphthol.

When suppuration is present curettage should be carried out, and if necessary extirpation of the degenerated glands when fistulae have formed.

Medicolegal.

Facts Must Be Given with Opinions on Mental Capacity.—The rule that witnesses required to testify to the mental capacity of a person whose sanity is questioned must first state the facts within their observation, on which they rest their conclusions, the Supreme Court of Minnesota holds, in a case of *Scott vs. Hay*, applies to family physicians who have treated a patient generally for other complaints than his alleged infirmity. It says that the weight of reliable authority sustains this ruling, for, where a personal examination has been made even by a physician or expert, he will be required before giving his conclusion, to describe the symptoms which he observed, to aid the jury in forming a conclusion. Neither medical experts nor other witnesses can be allowed to give an opinion of the mental capacity of a person without first detailing the circumstances and facts on which such opinion is based, and when the opinion of an expert is not based on a hypothetical case, nor on the testimony of other witnesses, but on facts, symptoms and circumstances that have come under his observation as attending physician of the patient or otherwise, such facts, symptoms, or circumstances must be fully stated by the testifying witness, so that the jury can determine whether the facts, as well as the opinion itself, are correct. The court says that the reason for adopting this rule seems to it manifest; otherwise, on a question where symptoms only can furnish evidence of the mental condition of the subject of inquiry, essential elements on which the inquiry is founded would be entirely wanting to aid in the investigation of the question before the court, and the result could be reached only by the number of witnesses on each side, or their respective weight avoirdupois or personal appearance, on a matter where there should be a full investigation of all the conditions which must affect the judgment on a most complicated and difficult subject.

Medical Services for Wife Not Living with Husband.—The Fourth Appellate Division of the Supreme Court of New York says, in the case of *Button vs. Weaver*, that the husband is liable for actual necessities furnished to his wife, unless he has made adequate provision for her maintenance, even though they are living separate. As long as the marriage relation continues, the obligation of the husband to support his wife remains. In this case the party sued left his wife—it may be, for the reason which amply justified his departure. She was still his wife, however. He declined to maintain her in his own household, and must make necessary provisions for her elsewhere. The physician suing had previously rendered services to the wife on the faith of the payment by the husband. These services were adjusted by a compromise and payment, and the husband then informed the physician

that he would not be responsible for any further services which the physician might render the wife. The services here sued for were performed after this notification, and the husband urged that circumstance as a reason why he was not liable. This position, the court says, would be impregnable if he had provided suitable medical attendance for her, or given her the means to procure it. A husband living separate from his wife may determine in a large measure in what way his credit is to be pledged, and in what manner the marital duty of providing for his wife is to be fulfilled. If, however, he forbid one from running an account against him for necessities furnished for his wife in order to make the prohibition effective he must otherwise supply her needs, or permit her to pledge his credit elsewhere. In the present case he directed the physician suing to abstain from performing services concededly necessary for his wife, but made no other provision for her for this necessity. He endeavored to be relieved wholly from the liability resting on him. This he might not do. The physician was entitled to judgment, with interest, besides the costs and disbursements of the action.

Duty to Provide Medical Attendance for Children.—As noted editorially on page 1028 of *THE JOURNAL*, October 24, 1903, the Court of Appeals of New York has reversed the decision, in the case of *People vs. Pierson*, reported on page 1464 of *THE JOURNAL*, May 23, 1903. Involved were the questions of the construction and constitutionality of the provisions of section 288 of the Penal Code of New York providing that "A person who (1) willfully omits, without lawful excuse, to perform a duty, by law imposed on him, to furnish food, clothing, shelter or medical attendance to a minor, . . . or (4) neglects, refuses or omits to comply with any provisions of this section, . . . is guilty of a misdemeanor." The court says that it would seem that the legislative intent in adopting this provision of the code is reasonably clear, although possibly more precise language could have been employed. It contemplates that there are persons on whom the law casts a duty of caring for minors, but it does not specify the persons. There are, however, those on whom the duty is "by law imposed." They are designated in the statutes and in the common law as the parents, guardians, or those who by adoption or otherwise have assumed the relation in the place of a parent. The duty of such a person is specified by the provisions of the section. It is to "furnish food, clothing, shelter or medical attendance." Giving the statute a reasonable construction, by applying the rule of necessity, it is apparent that it means the necessary food, clothing, shelter, or medical attendance required for the preservation of the health and life of the child. The court quite agrees that the code does not contemplate the necessity of calling a physician for every trifling complaint with which the child may be afflicted, which in most instances may be overcome by the ordinary household nursing by members of the family; that a reasonable amount of discretion is vested in parents charged with the duty of maintaining and bringing up infant children; and that the standard is at what time would an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote its recovery, deem it necessary to call in the services of a physician. In other words, the court holds that the section, properly construed, means that a person on whom the law has imposed the duty to care for a minor, who willfully omits, without lawful excuse, to furnish such minor with necessary food, clothing, shelter, or medical attendance, is guilty of a misdemeanor. Under this construction of the statute, the duty of parents to furnish medical attendance for their children, the court says, is expressly provided for and is made obligatory on them, even if they were exempt from such duty under the common law. The next question considered was what is meant by the term "medical attendance." Does it mean a regularly licensed physician, or may some other person render "medical attendance"? The conclusion reached is that the medical attendance required by the code is the authorized medical attendance prescribed by the statute; the court stating that this view is strengthened from the fact that the third subdivision of this section of the

code requires nurses to report certain conditions of infants under two weeks of age "to a legally qualified practitioner of medicine of the city, town or place where such child is being cared for," thus particularly specifying the kind of a practitioner recognized by the statute as a medical attendant. Nor does the court consider that the provisions of the code are violative of the provisions of the Constitution providing for the free exercise and enjoyment of religious profession and worship, without discrimination or preference, in the state. It says, among other things, that the peace and safety of the state involve the protection of the lives and health of its children, as well as the obedience to its laws. Full and free enjoyment of religious profession and worship is guaranteed, but acts which are not worship are not. The law of nature, as well as the common law, devolves on the parents the duty of caring for their young in sickness and in health, and of doing whatever may be necessary for their care, maintenance, and preservation, including medical attendance, if necessary; and an omission to do this is a public wrong, which the state, under its police powers, may prevent.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

December 5.

- 1 The Influence of Pasteur on Medical Science. C. A. Herter.
- 2 *Report on the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriologic Study. Wm. H. Park and L. Emmett Holt.
- 3 *The Degree to which Substances Agglutinating the Dysentery Bacilli are Present in the Blood of Non-Infected Persons. Lawrence E. Pillsbury.
- 4 General Convulsive Tic with Coprolalia. Harry Morell.
- 5 *The Treatment of Anterior Dislocation of the Shoulder, with Report of a Case in which Reduction was Prevented by the Detached Greater Tuberosity. George T. Vaughan.
- 6 *The Mortality of Diphtheria in Private Practice under the Antitoxin Treatment. John Zahorsky.

2. Milk in Infant Feeding.—Park and Holt give their studies in full and sum up their results in a number of conclusions which can be condensed as follows: 1. During the cool weather neither the mortality nor the health of the infants observed were appreciably affected by the kind of milk or number of bacteria contained in it. The different grades of milk vary much less in their bacterial contamination in winter than in summer, the store milk averaging only about 750,000 bacteria per c.c. 2. During the hot weather, the resistance being lowered, the kind of milk influenced both the illness and mortality. Those who took condensed and cheap store milk did the worst. Those who received breast milk, pure bottle milk and modified milk did the best. The effect of contamination was very marked when the milk was taken without heating, but unless excessive it was very slight when heating was applied shortly before feeding. 3. The number of bacteria that may accumulate before the milk becomes noticeably harmful to the average infant in the summer differs with the forms present, the age of the milk and its temperature. When taken raw, the fewer the bacteria the better the results. Of the usual varieties over 1,000,000 bacteria per c.c. are bad for infants, though many infants take such milk without apparent harm. Heat above 170 F. destroys most of the bacteria present, and also some of their poisonous products. No harm from the bacteria previously existing in recently heated milk was noticed in these observations, unless they had amounted to many millions, but in such excessive numbers they were clearly deleterious. 4. When milk of average quality was fed sterilized and raw, those who received milk previously heated did on the average much better in warm weather than those who received it raw. The difference was so marked that there could be no mistake. 5. No special varieties of bacteria were found in unheated milk which seemed to have any special importance in relation to the summer diarrheas of children. The number of varieties was very great and varied according to the locality from which the milk came. None of the 139 varieties selected as most distinct injured very young kittens

when fed in pure cultures. A few cases of indigestion were seen immediately following the use of pasteurized milk more than thirty-six hours old. Samples of such milk were found to contain more than 1,000,000 bacteria per c.c., mostly spore-bearing types. The bad effects produced were not serious or lasting. At present it is rare for milk to be used thirty-six hours after heating. 6. After the first year of life infants are less and less affected by the bacteria in the milk derived from healthy cattle. When the milk had been kept cool the bacteria did not appear to injure children over three years of age at any season of the year unless in great excess. 7. Everything possible should be done by the health boards to improve the character of the general milk supplied, by enforcing proper legal restrictions regarding its transportation, delivery and sale. Such improvements are feasible in our large cities to secure milk which will be wholesome for heating for all classes of the population. The general practice of heating milk, which has become a custom among the tenement population, is undoubtedly a large factor in lessening the infant mortality. 8. The method of a central distributing station has the most advantages since it secures the more constant oversight of the child, and furnishes the food in a form that leaves the mother less to do and avoids most mistakes. This method of feeding deserves to be more extensively employed and might wisely be undertaken by municipalities and continued during the warmer months of the year. 9. The use for infants of milk in sealed bottles should be encouraged when possible. Only the purest milk should be taken raw, especially in the summer. 10. Since intelligent care is most needed, the education of mothers and those caring for infants is important. Properly qualified trained nurses and women physicians visiting the mothers and printed directions are the best means for this purpose. 11. Bad surroundings, though contributing causes, are not the chief factor. The better housing of the poor in the large cities will not of itself greatly reduce the infant mortality. 12. Observations indicate that close percentage modification of milk, though desirable in every case, is not necessary to obtain excellent results in the majority, and that a certain adjustment of the infant to its food is usually soon secured. 13. While it is true that even in the tenements the results with the best bottle-feeding are nearly as good as the average breast-feeding, it is also true that most of the bottle-feeding is so badly done that breast-feeding is infinitely superior and should be encouraged by all means and not discontinued without good and sufficient cause. The matter of expense alone will often favor continued nursing. 14. The injurious effects of table food to infants under a year old, and of fruits to all infants and young children in cities in hot weather should be more generally appreciated.

3. **The Dysentery Bacillus.**—Pilsbury has investigated the question as to the presence of agglutinins for the Shiga bacillus in non-infected persons, and concludes that, while his investigations are only tentative, they warrant the following deductions.

1. The serum of non-dysenteric adult patients does agglutinate the Shiga and acid type (Flexner) bacilli frequently in a 1 to 20 dilution and occasionally in a dilution as high as 1 to 100.
2. This agglutinating power is wanting in the blood of non-dysenteric young infants (under one year) rarely being present even in a 1 to 10.

3. There are certain capabilities between the Shiga and acid type bacilli, the former in these tests clumping somewhat more readily than the latter.

4. A decided and prompt reaction, under two hours, with the *Bacillus dysenteriae* in dilutions of 1 to 20 or higher in young subjects (under one year) and in 1 to 50 or higher in older persons who have not recently suffered from chronic or subacute intestinal disease, is probably pathognomonic of acute epidemic dysentery.

5. **Anterior Dislocation of the Shoulder.**—Vaughan recommends in cases of anterior dislocation, which are generally of the subcoracoid variety, the old method of direct reposition. The surgeon places his fingers beneath and to the inner side of the head of the humerus with thumbs on the acromion process, and presses or pulls the head of the bone into place. Extension and counter-extension are also valuable and, he thinks, not appreciated. He applies this method by having the patient lie on the back with a folded sheet in the axilla, the ends extending diagonally across, above and below, the opposite shoulder where they are held by an assistant. The surgeon

flexes the forearm on the arm to relax the biceps, takes hold of the arm by both his hands and makes gentle, steady traction, at first in the line of displacement, but as the traction increases, the arm is carried away from the side to an angle of about 45 degrees. The traction is continued just enough to make the muscles tense and an assistant will relieve the surgeon when tired without relaxing the traction. In a short time, from one to six minutes, the confidence of the muscles is gained, the spasmodic contraction ceases, the muscles relax and the head of the bone slips into place. It is doubtful whether this will benefit old cases, but it appeals to him and seems worthy of trial because it is painless and does not require anesthesia; is perfectly safe in recent cases; can be used by the general practitioner who would hesitate to try the more complicated methods; does not injure the tissues, and succeeds in most cases. Kocher's is the next method if the others fail. It consists of three steps: Flex the forearm of the affected side to a right angle with the arm, press the elbow to the side, and rotate the humerus outward by carrying the forearm around until it stands directly out from the side. Still holding the forearm at right angles to the body, bring the elbow forward or forward and slightly inward until the arm is horizontal. If the head of the bone does not slip into place during the second step, make internal rotation by placing the hand on the opposite shoulder and lowering the elbow into position. This method is painful and usually requires anesthesia and may do some damage to the tissues. If all these three methods fail, in spite of anesthesia, the dislocation should be reduced by arthrotomy, provided aseptic operation is possible. Vaughan condemns the use of the foot, knee or fist in the axilla on account of the damage to the axillary vessels and nerves. He reports a case.

6. **Diphtheria.**—Zahorsky has studied the mortality statistics of diphtheria with the antitoxin treatment and has obtained data from about a dozen leading physicians in St. Louis who have employed it in their practice with children with surprising results—only 1.5 per cent. mortality in 1,610 cases. This includes the laryngeal cases, many of which were intubated. There are possibly certain errors such as the non-recognition of the disease in time, the use of insufficient dose of antitoxin, the inefficient character of the serum and mistaken diagnosis, accounting for the occasional deaths. One of the physicians thinks no patient with diphtheria should die. Zahorsky believes the statistics are not singular, but can be duplicated anywhere by physicians who believe in antitoxin and know how to use it.

Medical Record, New York.

December 5.

- 7 *Lesions of the Eye which Occur in the Course of Diseases of the Heart, the Blood Vessels and the Kidneys. Charles Stedman Bull.
- 8 *Eye Lesions in Heart and Kidney Disease. Francis Kinnicutt.
- 9 *A Report of Three Years of Operative Work per Vaginum at St. Joseph's Hospital, Yonkers, N. Y. Henry Moffat.
- 10 *Inflammation of the Bladder. Henry G. Spooner.
- 11 *Observations on the Use of the Sahli Test-meal. Edward A. Aronson.
- 12 A Typical Case of Sporadic Cretinism. Frank F. Newell.

7 and 8.—See abstracts, THE JOURNAL, November 23, p. 1362.

9. **Vaginal Operations.**—Moffat has been led by his observation of the work of J. Riddle Goffe to employ the vaginal method, and he reports results. He concludes from his own personal experience and study of other cases:

1. The anterior vaginal route is most useful to reach and operate on the round ligaments in cases of retroversion of the uterus or procidentia; also for removal of small fibroids, either subperitoneal or pediculated, or for conservative work on the ovaries and tubes, or for removal of these organs.

2. The posterior incision is most useful for drainage in cases of pyosalpinx, salpingitis, pelvic abscess, some cases of tubal pregnancy with hematocele and puerperal sepsis, either with or without involvement of the tubes; for oöphorosalpingectomy, when the ovary is held backward and downward by old adhesions, and even in some cases of acute general septic peritonitis.

The more I see of this work the more am I impressed with the important truth that no pus tube should be attacked by any other route than by the vagina.

He thinks that hysterectomy is attended with very serious danger in puerperal cases and better results can be obtained by posterior section and removal of the infected tubes and the opening up and draining of pus collections as they may appear. In certain desperate cases this has given him very satis-

factory results. He summarizes the cases treated during the three years in the St. Joseph Hospital.

10. **Inflammation of the Bladder.**—Spooner gives an interesting discussion of the literature as to the causes of bladder inflammation, and illustrates the conditions found. He insists on a guarded prognosis in these cases. As regards tuberculosis he finds that primary tuberculosis is very rare. It generally occurs in complication with tuberculosis of the epididymis or of the prostate and extends by continuity. It is, therefore, more frequent in men than in women and children. The prognosis is always unfavorable.

11. **Sahli's Test-Meal.**—Aronson criticises Sahli's "butter and flour soup" test meal as follows:

1. When made according to Sahli's description, the soup is not homogeneous.
2. The application of the test-meal to general practice is entirely impracticable.
3. The time consumed in determining results is incommensurable with the advantages derived from its use.
4. The lack of agreement in every case between the clinical diagnosis and the diagnosis according to the Sahli method.

New York Medical Journal.

December 5.

- 13 *Report of a Case of Carcinoma of the Breast, treated by Massive Mercuric Cataphoresis. G. Betton Massey.
- 14 *Twists in Normal and in Congenitally Dislocated Femora. Robert Soutter and E. H. Bradford.
- 15 *Tuberculous Infection of the Peritoneum and Adnexa. Andrew S. Lobingier.
- 15½ Dry Hot Air in the Treatment of Bright's Disease (to be concluded). Clarence Edward Skinner.
- 16 *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (Concluded.) Hermann G. Klotz.
- 17 A Visit to Naha Hospital. J. A. Guthrie.

13. **Carcinoma of the Breast.**—Massey selects this case on account of its typical character and micro-diagnosis, and also from the fact that recovery seemed to occur from a single application of massive mercuric cataphoresis. There is at present an excellent and healthy scar and the patient's condition is greatly improved. He thinks the method has the advantage over other procedures in the fact that the growth with all infected cells was devitalized at once, without the loss of blood, by a process that made operative resection of the wound impossible. Any outlying infected cells for a short distance beyond the area of destruction were also liable to be destroyed by the diffused chemical without detriment to the healthy tissues. The cancer occupying about one-half the breast was also destroyed without the entire sacrifice of the organ.

14. **Femoral Dislocation.**—Soutter and Bradford's article is a study of a special condition of congenital femoral dislocation; that is to say, the femoral twist. The article is too detailed for abstracting.

15. **Tubercular Peritonitis.**—Lobingier discusses the literature of tubercular peritonitis noticing especially its frequency in women which has led to the belief that the appendages may be primarily involved. Even though the evidences of appendiceal tuberculosis may not be marked, it is possible that it may exist as Whitridge Williams has shown. The symptoms are not definite or constant. Kelly regards pain in the back and hypogastrium as the most frequent symptom, though it is absent in many cases. The temperature is never characteristic and a number of other conditions may be simulated. Lobingier thinks that when the history of the patient, progress of the disease, character and location of the pain, tenderness, temperature, pulse, condition of the bowels and the state of nutrition are all carefully considered, it ought to be properly diagnosticated in any of its forms. As regards prognosis, authorities are quoted, and he favors Veit's opinion that while recovery may occur spontaneously, it is not to be counted on, and laparotomy in all but the ulcerative, caseous variety is almost always rewarded by cure or substantial benefit. Failures are due to advanced general infection of other organs. Recent cases should be operated on promptly and chronic ones operated on if spontaneous cure does not seem probable. Veit favors simple section in the linea alba, mopping out the effused fluid, and closure of the wound. When the adnexa are involved they should be removed. He ascribes the cure to the antitoxic action of the serum from the wound.

16. **Gonorrhea.**—Klotz' article is concluded in this issue with reports of cases of different classes. The primary ones he thinks are the most important and convincing, and while he is aware that many prominent specialists are adverse to early local treatment he does not agree with them, but holds that we should remove or destroy the irritant and infecting microbe as early as possible. While no one method will perhaps satisfy in all cases, he regards the method here proposed of retrograde injections of the stronger solutions of silver as worthy of a fair trial.

American Medicine, Philadelphia.

December 5.

- 18 *Treatment in 442 Cases of Movable Kidney without Surgical Intervention. Charles D. Aaron.
- 19 *A Logical Definition of Typhoid Fever. Henry A. Fairbairn.
- 20 *The Relation of the Rectal Valve to Obstipation; A Clinical Research. Thomas C. Martin.
- 21 Otitic Serous Meningitis: Lumbar Puncture, Recovery. Francis Huber.
- 22 A Case of Hysterical Tetany with Remarks on the Pathogenesis of the Disease. Alfred Gordon.
- 23 *Mycotic Disease of the Ear Canal: With Report of a New Fungus. S. E. Cook.
- 24 The Canteen. George M. Kober.

18. **Movable Kidney.**—Aaron holds that 90 per cent. of the patients who suffer from movable kidney and associated ptoses can be relieved without operation. Of the 442 cases here summarized, 321 were females and 121 males, ranging in age from 8 to 70. The right kidney was movable in 194 cases, the left in 20. In 228 both were adrift. Only 2 patients had Dietl's crises, and these were referred to the surgeon for operation. In 9, previous operations had been without results. In 215 cases there has been absolute recovery; 168 patients were improved and 59 have been either not improved or passed out of sight. The method which he advocates is the use of bandages to hold in their proper place the displaced organs. They should be constructed for each patient out of stiff material and should fit accurately. If the intestines are in position care must be taken that the band does not press on them, or harm may follow. It is a good plan to inflate the colon, which is apt to be prolapsed. The position of the stomach, spleen and liver must be ascertained. He is in the habit of making a mould of the abdomen with a piece of lead so as to get the exact shape of the patient just at the lower edge of the displaced kidney, where the greatest pressure must come. There should be no pressure on the kidney itself or on the upper part of the abdomen. Ready-made bands are generally failures, and it sometimes takes a number of trials to get just the right appliance. Operations have not given as good results as his method. Besides properly supporting the kidney and other displacements, diet, tonics, electricity and massage are a help in the treatment. Seven cases are briefly reported.

19. **Typhoid Fever.**—Fairbairn insists on the proper definition of typhoid fever as being based on the presence of the Eberth-Gaffky bacillus.

20. **Houston's Valves.**—Martin reports a number of cases of valvular obstipation treated by valvotomy. He points out the symptoms of hypertrophy of the rectal valves as inability to properly defecate and the acquirement of the "physic habit" with periods of constipation interrupted by short periods of diarrhea, which may later be more frequent and finally be the predominant condition. Ultimately symptoms of intestinal obstruction may become pronounced, and if relief is not afforded, the case may end fatally. The symptoms of pain, aching in the iliac region, backache and sciatica, hemorrhage, catarrhal or membranous proctocolitis, prolapse, hemorrhoids, fistula, etc., may be signs or complications of the obstructing valve. Of the 40 patients here reported, 2 were not improved and 5 were improved, 3 of these with complications; 33 were cured. He says it should be recognized that valvular obstipation may recur, even after operation, by the development of hypertrophy in valves not previously subject to the disorder. The patient should be advised in case of a period of two or three days without defecation to use saline laxatives, glycerin and water enemata at a temperature of 120 F., remaining in bed for a day or two, at no time lying on the back, but to

keep the hips elevated, and then come to the physician who can directly massage the rectal folds through the proctoscope with a cotton guarded forceps and spray the mucosa with a weak solution of nitrate of silver

23 Mycotic Disease of the Ear Canal.—In the case reported by Cook & Jungus was found, identified by Dr Pound of the University of Nebraska, with the *Stenigmatocystis candida*, a species hitherto unknown or not reported as existing in the human ear canal. In these parasitic cases the prognosis is usually good, but relapses are frequent. The treatment should be directed to the restoration of the tissues to the normal condition by removal of the processes or fungus. Water should be used sparingly. Powders are better, but alcohol is an exception to other fluids, as it rapidly penetrates the crevices of the skin and cools the inflamed surfaces by its rapid evaporation. It should be used somewhat diluted. About 2 per cent of boric acid will increase its utility. Burnett claims that a powder of one part of chromic sulphate and 8 to 16 parts of boric acid will destroy the fungus as well as the micro organisms of suppuration. Following the destruction and removal of the fungus and the products of inflammatory reaction, use in case of severe inflammation a solution of 20 minims of subacetate of lead, 6 minims of dilute acetic acid, 20 minims of opium sedative solution and 1 ounce of distilled water. Instil 10 drops, warmed, into ear canal, as directed. His own plan is after cleansing out the ear to use a dilute solution of alcohol, 60 to 80 per cent.

Boston Medical and Surgical Journal
December 3

- 25 *Hypernephroma Paul Thorndike and John H. Cunningham, Jr.
- 26 *Papillary Adenocarcinoma of the Thyroid and Accessory Thyroid Glands Harry C. Low
- 27 *Intestinal Parasites in Appendicitis J. C. Hubbard
- 28 A Case of Sarcoma of the Lower Jaw F. B. Lund
- 29 Chronic Cyanosis from Acetanilid Poisoning J. N. Hall and H. R. McGraw

25 Hypernephroma—This form of renal tumor occurs encapsulated in the kidney substance or just below the kidney capsule, usually in the adult male. It interferes with function by destruction of the renal substance or by compression or both together. Its growth is rapid and usually malignant, though it may be benign in some instances. It usually involves the renal vein and sometimes the vena cava, and metastases are formed along the blood current, especially in the lungs, liver and bones, but they do not involve the lymphatic channels. Three cases are reported by the authors, with post mortems, which illustrate the characteristic points of both the gross and microscopic pathology of these growths. An affected kidney may not be much increased in size, but is generally large. The general outline of the organ is usually retained and the surface is always nodular. On section the tumor tissue is generally yellowish, with a firm and distinct stroma. Some of these nodules show areas of hemorrhage and degeneration.

26 Accessory Thyroids—Six cases, one previously reported, are here given by Low and he discusses the literature. He remarks on the rarity of metastases, the tendency to rapid recurrence and the necessity for supposing that there is a metaplasia of the cuboidal into the cylinder cells in the growth. In the treatment the fact that these tumors show a certain malignancy should be borne in mind. They should be thoroughly and completely removed if possible without incising the capsule surrounding the growth, great care being taken to prevent cutting in the wound bits of tissue which may become the germ of recurrence. The operation is generally difficult, and when incomplete there is almost always recurrence.

27 Appendicitis—Two cases of appendicitis are reported, one in which there were found to be pin worms present, and in another a lumbricoid worm was discovered half way through a perforation. He concludes that intestinal parasites cause appendicitis by their action as a foreign body. Possibly their struggles may bring about a perforation where otherwise none would have occurred. *Trichocephalus dispar* has been proved to cause inflammation of the appendix by injuring the mucous membrane while sucking the blood of the host. *Ascaris* has been found with a material similar to that in *trichocephalus* in

its intestinal epithelium and therefore, is supposed to attach itself to the mucosa of the host, and thus start appendiceal inflammation. As regards *Oxyuris vermicularis*, there is no proof that it causes appendicitis other than through its action as a foreign body.

Cincinnati Lancet-Clinic.
December 5

- 30 *Vasotomy with the Report
- 31 *Typhoid Gangrene of the Spontaneous and Surgical (Continued) B. Merrill Ricketts
- 32 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid (Continued) B. Merrill Ricketts

31 Typhoid Gangrene of the Limbs—Ricketts' article is concluded in this issue with a study of the cases from the literature and report of a case in his own observation. His conclusions are given as follows:

- 1 Sudden pain in extremities at any time during typhoid bad omen
 - 2 Neuter Pouparts ligament the more dangerous
 - 3 Pain does not always indicate location of clot
 - 4 Clot most frequently in popliteal artery
 - 5 Rapid progressive gangrene beginning at toes indicates occlusion of aorta, iliac or femoral artery in Scarpa's triangle
 - 6 Slow progressive gangrene indicates occlusion of vessels from below upwards especially in early stage
 - 7 Line of demarcation forms sooner during convalescence, but femoral or even the iliac may be occluded, even when it forms in lower leg may not form for six months
 - 8 Partial occlusion of vessel may occur during attack or convalescence with recovery but complete occlusion may become gradual and gangrene take place one year later, as in Estlander's case
 - 9 The want of collateral circulation may be due to anomalous circulation
 - 10 Partial occlusion of one or more vessels may occur without gangrene, even though sensibility be impaired
- Cocain used subcutaneously or by blocking the nerve trunk may become an important factor in amputating extremities during typhoid fever

Virginia Medical Semi-Monthly, Richmond
November 27

- 33 The Lorenz Method Edmund W. Holmes
- 34 Diet and Drugs in Nephritis William S. Gordon
- 35 *Some Common Malaria Neuroses not Discussed in our Text Books R. Bruce Jones
- 36 Lysophobia—Report of a Case S. T. A. Kent
- 37 The Psychological Side of Medicine Bittle C. Kelster
- 38 Further Remarks on Gonorrhea Its Complications, and our Responsibility in Authorizing Matrimony Jos. Taber Johnson
- 39 Excision of Head of Colon and Part of the Ileum A. H.
- 40 Si Treated by Hyoscine Hydrobromide B. Padeley
- 41 Tubular Pregnancy W. D. Anderson

35 Malarial Neuroses—James calls attention to the complications produced by malaria in pregnancy especially in inducing false labor pains. He also comments on cases in which the bladder becomes irritable from malarial poisoning, producing frequent and painful micturition which is relieved by arsenic and quinin. This trouble, he thinks, is quite common. Drug-gists treat many cases empirically by methylene blue and often hit the mark. Other organs that may be affected by malaria are the stomach, producing nausea more or less continuous, pain and dyspeptic symptoms and intestinal trouble. It may cause decided profuse diarrhea or even dysentery. He gives illustrations of several of these conditions, especially the false labor pains which are not apparently uncommon in cases in his part of Southern Virginia.

International Journal of Surgery, New York.
December

- 42 *The Decision to Operate A. M. Cartledge
- 43 *The Surgery of Pulmonary Gangrene L. L. McArthur
- 44 *The Surgical Treatment of Varices and Varicose Ulcers John Rodman
- 45 The Surgical Assistant (Continued) Walter M. Brickner
- 46 Absolute Occlusion of the Membranous Urethra, Suprapubic Cystostomy Combined with Perineal Urethrotomy Albert L. Bennett
- 47 Non malignant Tumors of the Mammary Gland in the Female Thomas H. Manley
- 48 To Stain Silk-worm Gut Ligatures Augustin H. Goelet

42—See abstract in THE JOURNAL of October 24, p. 1040

43 Pulmonary Gangrene—McArthur reports 3 cases operated on, 2 successfully, that is to say, the patients recovered. He says that since under medical treatment 80 per cent of the patients die, and only 20 per cent of those operated on, surgical intervention is the appropriate treatment. While it is anatomically possible to separate the pleura from the chest

wall, it is difficult and often futile, and we should not lose much valuable time attempting it. A circular suture combined with gauze pressure packing for forty-eight hours is the best means of inducing adhesions. The x-ray may give valuable aid in the localization. Great care, however, should be taken in the selection of cases, but when the gangrene is localized and single, the most desperate cases should be given a chance, as they frequently recover with drainage.

44. **Varices and Varicose Ulcers.**—Rodman advocates the method of circumferential incision. The incision is made at the junction of the lower and middle third of the thigh, at about the triangular junction of the flexors. Preferably here, on account of the advantages as avoiding tension and the greater ease in dissecting out the veins. This incision avoids the external saphenous vein which, though often implicated, is never culpable. He says make the incision slowly and carefully in order not to endanger the veins and to avoid cutting one or two large nerves of the skin. Carry it down to the aponeurosis or fascia. Dissect and ligate the veins above and below the incision and excise between the ligatures. Apply dry dressings. Flex the knee and bandage the limb to the hip. Elevate the foot of the bed. Keep the patient confined one week, then let him walk on crutches; keep him out-doors with a bandage to protect the cicatrix and to support and regulate the circulation. Keep on the bandage for four weeks. The omission of the bandage compromises the integrity of the scar, and edema occurs that ought to be avoided.

Albany Medical Annals.

December.

- 49 Address, Medical Society of the County of Albany. John Archibald.
- 50 Insanity in Penal Institutions and Its Relation to Principles of Penology. H. E. Allison.
- 51 *The Release of Quarantine in Diphtheria. Thomas W. Salmon.
- 52 *What Is the Limit of Safety Where More Than One Operation Is Indicated? Albert Vander Veer.

51. **Quarantine in Diphtheria.**—From a study of 100 cases with special reference to the time of quarantine, Salmon concludes that the severity of the disease bears no relation to the duration of the infection and an arbitrary time-limit is not justifiable. The occurrence of positive cultures after a single negative one had been obtained is shown to be the rule, rather than the exception. The importance of taking cultures from nose as well as the throat in the pharyngeal cases is demonstrated by a number of instances included in the series in which the nose remained infected longer than the throat. He advises two negative cultures be taken on alternate days from both the nose and throat after two weeks have elapsed from the onset of the disease, a requirement which is not unfair to any, though permitting the release of only about 6 per cent. of the infected persons.

52.—This article has appeared elsewhere. See abstract in THE JOURNAL of December 12, p. 1496, paragraph 6.

Canada Lancet, Toronto.

December.

- 53 *Experiences in the Treatment of Pelvic Diseases in the Female Insane. Ernest A. Hall.
- 54 *Thrombosis of the Femoral Veins Following Aseptic Laparotomy. E. R. Secord.
- 55 Discussion on Tubercular Peritonitis. A. B. Atherton.
- 56 The Country Doctor. James S. Sprague.
- 57 Gunshot Wound of the Upper Arm with Non-union of Humerus and Destruction of the
- 58 An Unusual Case of Empyema of the
- 59 The Treatment of Inebriates. A. M. Rosebrugh.

53. **Pelvic Diseases in the Insane.**—Hall gives his experience in operating on insane females and claims that the recovery ratio is sufficient to encourage investigation. It warrants operative treatment in the insane. Mental disease is no excuse for neglect of pelvic abnormality. He thinks that special detention hospitals or special wards in general hospitals for the proper treatment of recent cases of insanity should be provided and also that a competent gynecologist should be associated with all state hospitals for the insane. He is rather severe in his criticism of alienists in this regard.

54.—This article has appeared elsewhere. See THE JOURNAL of November 28, paragraph 92, p. 1370.

Columbus Medical Journal.

November.

- 60 *The Quick and the Dead. Dickson L. Moore.

60. **The Quick and the Dead.**—This article, like that of the same title by Conklin previously abstracted in THE JOURNAL, is a plea for cremation. Moore points out the dangers of the ordinary burial methods and the advantages of the other practice.

The Clinical Review, Chicago.

December.

- 61 The Technic of Gynecological Work. Albert Vander Veer.
- 62 The Use of a Giant Magnet in the Removal of a Fragment of Iron from the Eye. J. Elliott Colburn.
- 63 The Diagnosis and Treatment of Hereditary Syphilis. N. Filatov.
- 64 Surgical Clinic. Frederick C. Schaefer.

Louisville Monthly Journal of Medicine and Surgery.

December.

- 65 Abscess of the Brain. H. Horace Grant.
- 66 Asphyxia Neonatorum. Edward Spedel.
- 67 Influenza in Children. Philip F. Barbour.
- 68 The X-ray and Surgical Tuberculosis. Thomas L. Butler.
- 69 Fracture of the Skull. Irvin Abell.

Pediatrics, New York.

October.

- 70 *On the Use of Opium in the Carditis of Children. Alexander Morrison.
- 71 *Infantile Colic. Alexander McAllister.
- 72 *Constipation in Infants and Young Children. W. J. Fenton.

70. **Opium in the Carditis of Children.**—Morrison pleads for palliative remedies as life-savers in cardiac inflammations in children, and the value of opium properly used in these cases. The younger the patient the greater the care in its use, but even young children when excited locally and generally by an actively irritative process, can tolerate larger doses than under normal circumstances. He quotes cases at length, showing the tolerance of children for considerable doses of morphin. While the personal case he relates resulted fatally the relief it gave was marked and the results of postmortem examination revealed the anatomical conditions underlying the symptoms. In combating carditis he feels disposed to give permanent place to opium.

71. **Infantile Colic.**—The dangers of the rubber nipple, especially those with a long tube, are emphasized by McAllister, who would never use any nipple continuously over two weeks. He insists on having two, one being kept in an alkaline cleansing wash, while the other is being used. The dangers of too rapid feeding are pointed out, and he remarks on the necessity of careful physical examination as to the cause of the colic. In the treatment too careful circumspection in the use of drugs can not be practiced. Many cases can be permanently relieved by a little manipulation with or without gentle massage of the abdomen. Next to this is warmth applied to the abdomen, dry or moist, or internally in the form of sips of hot water, or hot enemas. In spite of all efforts, however, some infants require medication with carminatives. In these cases the standard teas frequently prove too weak. Paragoric with opium excluded is a remedy of considerable value. The dose is easily regulated, beginning with a few drops. He quotes Rotch as advising the use of carminatives between feedings, and gives one of his favorite prescriptions. It consists of 40 grs. of sodium bicarbonate; 40 minims of aromatic spirits of ammonia; 30 minims of glycerin and 2 ounces of peppermint water. One teaspoonful to be given between feedings. When acidity is not an element requiring special treatment, asa-fetida is frequently of value. The use of narcotics is only exceptionally permissible.

72. **Constipation in Infants.**—The causes and treatment of constipation are reviewed by Fenton. In the majority of cases it depends on an excess of proteid and deficiency of fat in the diet. He notes that boiling and pasteurizing seem to affect the milk for infant feeding. He quotes Starr that carefully standardized laboratory milk is also liable to produce intestinal disorders and malnutrition in some cases, domestic modification of milk being freer from these dangers. In hand-fed children constipation is much more frequent and often difficult of treatment. Starchy food may be given too early and there may be a general depression of the health from other causes, such as want of fresh air or habitual use of enemata, while remedies

injudiciously given for colic may be the cause. Want of a sufficient quantity of fluid drunk may be the cause. The constipation may disclose a serious nervous disorder. He insists on a quiet, regular life for the nursing mother with sufficient rest at night, plain nourishing diet, etc. The composition of the milk varies at different times. Regularity in the infant's feeding is of importance. If medicinal treatment is also necessary, fluid magnesia, a few grains of carbonate of magnesia, mauna, or an occasional dose of castor oil may be given. A small suppository of glycerin or the domestic remedy of a small cone of soap, inserted into the rectum, is useful and efficacious. It is wise to trust to the natural appetite of hand-fed infants where vomiting is absent and the food is given regularly. Sometimes the milk should be stopped and whey broth, meat juice, albumin water or a thin dextrinized gruel be substituted. Frequently, partial or complete peptonization suffices. A teaspoonful of fine oatmeal made into a paste and stirred into the morning milk is sometimes useful. The common cause of constipation in infants being excessive proteid and deficient fat, these defects must be met by a suitable addition of cream. Massage is a valuable remedy. For drugs he mentions in the simple cases a teaspoonful of manna dissolved in hot water or a few grains of phosphate of soda, either of which may be added to the milk, and usually prove sufficient. Fluid magnesia, or $\frac{1}{2}$ to 1 grain of sulphur may be given. For co-existing colic and flatulence some mild cathartic is employed. The aim is to get the bowels freely open first and then keep them open by the use of drugs as little stimulating as possible. In older children regular habits should be encouraged. Enemata are of service if fecal masses have collected in the rectum, but their use should not be persisted in.

Archives of Ophthalmology, New Rochelle, N. Y.

November.

- 73 *On Glaucoma. K. R. Wählfors.
- 74 A Clinical Contribution to Traumatic Enophthalmus. Dr. Partsch.
- 75 The So-called Embolism of the Central Artery of the Retina and of Its Branches. Max Belmar.

73. **Glaucoma.**—The long prevalent theory of increased tension as the cause of glaucoma is combated by Wählfors. It is true that increased tension exists in the acute, inflammatory type of disease, but in the simple form it is absent. He does not, however, consider the two types as distinct. The real origin of the trouble he thinks is in atrophy of the choroidal elements. This destroys the nerve sensory apparatus and leads to increase of tension by paralysis of the muscular network of the choroid, slowing the course of the currents of liquid. The channels of exit thus become blocked and cause retention. It is here and not in the uveal region that the cause of increased tension is to be found. Excavation may occur without an increase in the tension, as it is liable in simple glaucoma where there is no increase of tension. He ascribes excavation to atrophy of the connective tissue composing the framework of the lamina cribrosa and the diminished resistance of the papillary tissues. Atrophy is probably primary and excavation secondary. As regards treatment he thinks that there is little that can be done for the processes in simple glaucoma excepting by repeated injections of strychnin, which in a certain proportion of his cases have been beneficial. By giving these injections one a day for ten or twenty days, repeated three or four times a year, he has been able to preserve vision for many years. In acute glaucoma iridectomy is of value as it prevents venous stasis—the last link in the chain of congestive glaucoma. It may also be of prophylactic value in simple glaucoma as preventing acute exacerbations.

Medical Examiner and Practitioner, New York.

November.

- 76 *The Relation of Tubercular Glands to Life Insurance. Daniel N. Eisendrath.
- 77 *The Significance of Intermittent Albuminuria in Life Insurance Work, with Report of a Case. Andrew H. Whitridge.
- 78 Tetanus—with Descriptive Case. Joseph B. Bissell.
- 79 Sundry Random Thoughts on Life Insurance Matters. A. Noel Smith.
- 80 A Study of Light. Ultra Violet Light. Part II. J. Mount Bleyer.
- 81 Rheumatism and Gout. C. L. Steensen.
- 82 The Element of Anemia in Diseases of Women. Everett S. Hicks.

76. **Tubercular Glands and Life Insurance.**—Eisendrath has studied the literature and statistics of the subject. From these as well as his own observation he concludes that tubercular glands of various regions are frequently followed by foci, mostly of the lungs (28 per cent). Next in frequency are the bones and joints. Operative treatment gives the best number of permanent recoveries (54 to 80 per cent.). Every insurance examiner should keep in mind the above figures and investigate carefully as to the possibilities of a late focus following tuberculous adenitis in early life.

77. **Intermittent Albuminuria.**—Whitridge discusses the subject and reviews the opinions of various authorities on the question. He thinks that a mere trace of albumin in the urine does not justify the turning down of an applicant for life insurance, but he should be kept under observation and repeated examinations made. In all cases it is important to know the amount of urine passed daily. If there is no history of frequent micturition, if the urine is of normal specific gravity and the urea normal, he thinks the applicant is insurable.

Medical Fortnightly, St. Louis.

November 25.

- 83 The Mesoappendix. Byron Robinson.
- 84 Two Cases of Impacted Fracture of the Hip Joint—One Treated with Hodgen Splint and One Treated with Liston Splint—Comparison of Treatment. W. J. Clark.
- 85 Gunshot Wound of Abdomen. W. C. G. Kirchner.
- 86 Chronic Interstitial Nephritis. R. A. Bate.

Richmond Journal of Practice.

October.

- 87 The Terminal Symptoms of Chronic Bright's Disease. William S. Gordon.
- 88 Treatment of Eclampsia. J. M. H. Rowland.
- 89 Laboratory Diagnosis in Gastric Disorders. E. Guy Hopkins.

Northwest Medicine, Seattle, Wash.

November.

- 90 Address, British Columbia Medical Association. O. M. Jones.
- 91 What Can Be Done for Cancer? Emory Lauphear.
- 92 The Surgical Problem in Prostatic Hypertrophy. (To be continued.) George W. Hawley.
- 93 Etiology and Treatment of Pathologic Conditions of the Prostate. W. S. Durand.

Medical Mirror, St. Louis.

October.

- 94 Fragments of a Diary. I. N. Love.
- 95 The Mother, Before Conception, During Pregnancy, After Childbirth. A. Campbell White.
- 96 Treatment of Lupus. Norman Barnesby.
- 97 Latent and Masked Estivo-autumnal Malarial Fevers—Sub-continued Estivo-autumnal Malarial Fevers and the Combined Infections. W. E. Fitch.
- 98 X-Iodo Bismuth. J. Leffingwell Hatch.

Canadian Journal of Medicine and Surgery, Toronto.

December.

- 99 Spinal Injuries External to the Spinal Cord. Thomas H. Manley.
- 100 Address, Toronto General Hospital Training School for Nurses. Allen Baines.
- 101 Deformities and Disabilities Resulting from Injuries or Diseases of the Epiphysis. B. E. McKenzie.
- 102 Notes from a Recent Trip to New York. John Hunter.
- 103 The Surgical Treatment of Hallux Valgus and Bunion. James Newell.
- 104 Two Cases of Normal Pregnancy Following Operation for Extra-uterine Pregnancy. Francis D. Donoghue.

Kansas City Medical Record.

November.

- 105 The Subcutaneous Use of Paraffin in Deformed Noses, with a Supplementary Report. Hal Foster.
- 106 Electrotherapeutics. C. S. Roberts.
- 107 Orificial Surgery. A. Van Meter.
- 108 Prophylaxis and Treatment in Incipient Tuberculosis. T. F. Lockwood.

Journal of the Kansas Medical Society, Topeka.

December.

- 109 Case of Intussusception. R. S. Magee.
- 110 Echinacea. L. E. Sayre.
- 111 Intrauterine Smallpox. H. T. Jones.
- 112 Chancres and Chancroids. Hugh Wilkinson.
- 113 Infectious Diseases and Quarantine. (Continued.) Arthur W. Clark.

St. Paul Medical Journal.

December.

- 114 The Treatment of Rhinophyma. J. Collins Warren and Charles J. White.
- 115 The Ill-health of Margaret Fuller-Ossoli. George M. Gould.
- 116 Nephrolithiasis. James H. Dunn.
- 117 Pregnancy, Labor and Lying-in. Frederick Leavitt.
- 118 Notes on Seven Years of Obstetric Practice. G. J. Tweedy.
- 119 Acute Prostatitis. F. M. Archibald.
- 120 An Ideal Treatment for Gonorrhea. Burnside Foster.

Texas Medical News, Austin.

November.

- 121 The Management of Crushing Injuries of the Hands and Feet. R. W. Knox.
- 122 Streptolytic Serum in the Treatment of Mixed (Streptococci) Infection of Pulmonary Tuberculosis. Boyd Cornick.
- 123 Constipation as a Factor in Diseases of the Rectum and Colon. J. E. Morris.
- 124 The Management of Appendicitis, as Met in Country Practice. B. Nowlin.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 28.

- 1 *The Treatment of Some Acute Visceral Inflammations. D. B. Lees.
- 2 Syphilitic Joint Disease. E. Percy Paton.
- 3 The Spread of Ankylostomiasis. T. H. Hendley.
- 4 A Case of Abdominal Hysterectomy for Retroperitoneal Cervical Fibroid. Arthur H. N. Lewers.
- 5 Two Cases of Retroperitoneal Cysts: One Causing Obstructive Jaundice and the Other Simulating an Ovarian Cyst. Charles A. Morton.
- 6 Retroperitoneal Manipulation—A Method of Separating Deep-seated, Plastic, Pericecal or Other Peritoneal Adhesions. G. Gore Gillon.
- 7 *Subperitoneal Lipomata. John Campbell.
- 8 *The Treatment of Visceral Papilloma by Injections. Herbert T. Herring.
- 9 Case of External Urethrotomy Treated by Continuous Retention of a Rubber Catheter Held in Position by a "Perineal Stop." C. Hamilton Whiteford.
- 10 The Pathology of Hallux Rigidus. J. M. Cotterill.
- 11 *Further Notes on Leishman's Bodies. Ronald Ross.
- 12 *The Etiology of One of the Heterogenous Fevers of India. C. Donovan.

1. **Pneumonia.**—Lees' second lecture is on pneumonia. He says that when the vitality is feeble or other viscera are damaged or there are old pleural adhesions, when the lungs are fibroid or emphysematous, or the patient is chronically poisoned by alcohol, tobacco or sepsis chance for recovery is small. Pneumonia kills, he says, by a paralyzing overdistension of the right heart on which the toxin seems particularly to act, as particularly distinguished from that of rheumatism which affects the left heart. Most important in treatment is constantly to watch the right heart, preventing overdistension by timely removal of a small quantity of blood, a precaution too often neglected, which fact he thinks is responsible for a large part of the mortality. The procedure should be repeated when necessary. The diet should be such as can be taken without effort and easily assimilated. Milk meets these indications and acts also as a diuretic, thus helping to carry off the toxins. We have to consider, however, that an increased amount of fluid increases the amount passing through the right heart, and he would, therefore, only give small quantities of predigested and highly nutritious elements during the intenser stages of the disease when this cardiac complication is marked. He suggests one-half ounce of sodium and potassium bicarbonate, dissolved in 2 ounces of malted milk every hour for an adult; for a child, two teaspoonfuls in an ounce. After the leech has relieved the heart it is possible to give considerable quantities of water. During the first two or three days he would give milk alone in quantities of two to three pints a day, but not later. Sleep must be obtained, and if pain demands it morphin may be necessary. Even at a late stage or in severe cases morphin may sometimes be safely given if the right heart has been relieved and the air passages cleared by venesection an hour or two previously. But if the right heart has been duly relieved by leeches and local applications of the icebag made over inflamed areas, morphin is rarely necessary unless the pleura is seriously involved. He thinks strychnin is the most useful cardiac tonic; this should be given subcutaneously in dose of $\frac{1}{2}$ to 1 minim of the official solution, B. P., twice daily, in the beginning with a child; and in the adult 2 minims morning and evening at first, increasing to as much as 5 minims if necessary. Atropin by subcutaneous injection is often useful, especially in children; in adults belladonna is less convenient. Oxygen by inhalation assists aeration of the blood and improves the quality of the blood supply to the heart. It is a true cardiac tonic, but neither strychnin or oxygen will save the patient if the right heart is allowed to

become paralyzed. Digitalis is most likely to be of service after the cardiac symptoms are relieved and the fever is moderate. Ammonium carbonate may be given when there is much secretion in the bronchial tubes and repeated small doses of alcohol may be of service, but large quantities are likely to do more harm than good. It is absurd to think that brandy can support the heart when the right side has become paralyzed from overdistension. Ice applications over inflamed areas are of great value, and must be used much more freely than in pericarditis. Lees suggests also that such applications lessen the proliferation of bacteria and quotes Dr. Neave, who has investigated on this point. From Washbourn's experiments he concludes that lung consolidation and pyrexia are largely due to the local effects of an albumose produced by the growth of the pneumococcus.

7. **Subperitoneal Lipomata.**—Campbell reports two cases, one of the malignant and one of the benign variety. Subperitoneal lipomata are much more frequent in women than in men—a ratio of 25 to 16, and are more frequent on the right side. The malignant variety includes retroperitoneal tumors which originate on the posterior aspect of the abdomen, difficult and almost impossible to remove, microscopically, sarcomatous in whole or in part. Those affected are at first in good health, but ultimately waste while the tumor increases. The benign variety includes lipomata of the broad ligament, omentum and appendices epiploicae. These tumors can be safely removed. They do not cause much general deterioration of the health.

8. **Vesical Papilloma.**—Three cases are reported by Herring, who thinks they demonstrate the following facts:

1. Recurrence of papilloma after removal by suprapubic cystotomy, which, unfortunately, is very frequent, may be effectually held in check by injections of silver nitrate.
2. If injections are made, when it has been found impossible to remove the growth entirely by operation, the recurrence of the symptoms is retarded longer than could be expected without the treatment.
3. Much of a tumor may be removed by the urethra without serious hemorrhage, and a result gained equal in some cases to that of a suprapubic operation.
4. There is reason to hope that papillomatous growths may be entirely destroyed by long-continued applications of silver nitrate.

The conclusions, therefore, that may be drawn, although confirmatory evidence is needed, are: (a) Injections should be made after operations for the removal of the growth, whether the operator is satisfied that he has done so efficiently or not. (b) The urethral route should be tried, when removal of the papilloma is contemplated, before a more serious operation is undertaken.

The question whether most cases of papilloma should be operated on through the urethra before the injections are commenced, even when the diagnosis is made early and the tumor is small, or whether injections alone should be relied on, requires further investigation. I should be inclined under favorable circumstances to give the former plan another trial; for, in the first place, the operation need not be severe nor attended with serious consequences, if strict attention is paid to sterility in instrumentation; in the second, the improved instruments recently made by Leiter and the advantages derived from adrenalin in stopping hemorrhage, render manipulation more certain; and thirdly, the size of the tumor to be attacked by the injection afterwards will be less even if only small portions are removed, and consequently the time required to check the disease shortened. In the female I have no doubt that this is the proper proceeding. Suprapubic cystotomy can hardly ever be wanted when access to the bladder is more easily gained through the urethra by the means of Kelly's tubes.

11. **Leishman's Bodies.**—Ross concludes that these bodies belong to a new genus of sporozoa and that the individual bodies are spores produced in the matrices, which would appear to be relics of the parent organism. He has no scientific name to offer for the new genus, but suggests "Leishmania." If such were adopted the species would be "Leishmania donovani," as Laveran has used the name "Piroplasma donovani."

12. **Leishman's Bodies.**—Donovan briefly reports that he finds these bodies in the spleen of patients suffering from an irregular fever, with enlarged spleen and liver, paroxysmal edema of the feet, congestion of the lungs, occasional subcutaneous hemorrhages and cancrum oris. He thinks they probably are the causal factor. Medication by quinin, arsenic and sodium salicylate has proved ineffectual.

The Lancet, London.

November 28.

- 13 *The Administration of Chloroform to Man and to the Higher Animals. Augustus D. Waller.
- 14 The Present State of the Irish-Poor-law Medical Service. R. F. Tobin.
- 15 Some Questions in Seaside Climatology. Alfred F. Street.
- 16 Patent Medicines. Robert Hutchison.

- 17 On Albuminuria as an Accompaniment of Diabetes Mellitus. (To be continued.) F. W. Pavy.
- 18 Fracture of the Fifth Cervical Vertebra; Recovery. W. E. F. Tinsley and A. R. Jones.
- 19 A Confirmatory Test for the Presence of Meconic Acid. F. N. Windsor.
- 20 A Case of Teratoma of the Neck. F. Bolton Carter.
- 21 Note on a Dicephalous Monster. Alexander M. Elliot.
- 22 Remarkable Transposition of the Viscera. John C. Thomson.

13. Chloroform.—Waller insists on the importance of accurate dosage of chloroform in anesthesia; this can be obtained by Dubois' pump. Chloroform vapor should be maintained under 1 or 2 per cent. of the inspired air. He relates experiments showing the use of this method; 5 per cent. is dangerous, between 1 and 2 per cent. is the safest. Rule of thumb methods are not accurate or safe.

Journal of Tropical Medicine, London.

November 16.

- 23 *Calabar Swellings on the Upper Congo. Patrick Manson.
- 24 *Goundou: Its Relation to Yaws. A. Nell.
- 25 The Effect of Drainage and Other Measures on the Malaria of Klang, Federated Malay States. (To be continued.) Malcolm Watson.
- 26 Municipal Sewerage. (Continued.) Fred. Smith.

23. Calabar Swellings.—Manson reports a case in a missionary on the Congo. The disorder known under this name consists of attacks of edematous swellings of certain parts of the body with pain and loss of power. As the cases are found in association with the *Filaria loa* and appear to be especially prevalent in the area of its distribution, the conjecture that they are caused by this nematode seems not unreasonable. It occurred to him that these swellings might be provoked by the discharge into the connective tissues of embryos by a parental loa. From the connective tissue they may find their way along the lymphatics into the general circulation where their life may be limited. He thinks an examination of the blood soon after the appearance of a Calabar swelling might disclose an embryo. It seems to be a disease which specially affects males; only one woman, as far as he has known, has been attacked among the missionaries on the Congo.

24. Goundou.—Nell concludes that yaws bears a causal relation to goundou, which consists in symmetrical osteomata on the nasal processes of the superior maxillary bones, always congenital, either apparent at birth or to be detected on close examination. The general enlargement is always concomitant with body growth and stops with full adult life. An acute enlargement or an attack of yaws follows. Some congenital cases are not noticeable if no acute enlargement has occurred, and adults with slight ridges or bosses should be questioned regarding goundou or yaws in the family.

Australasian Medical Gazette, Sydney.

October 20.

- 27 Mechanism of the Paroxysmal Neuroses. Francis Hare.
- 28 Management of Epidemic Plague. J. Ashburton Thompson.
- 29 A Case of Aneurism of the Transverse Aorta. Louis Henry.
- 30 On Certain Pelvic and Abdominal Operations. E. T. Thring.
- 31 Gastric Surgery. R. Humphrey Marten.
- 32 Notes on Gastric Surgery. W. Anstey Giles.

Intercolonial Medical Journal of Australasia, Melbourne.

October 20.

- 33 Movable Kidney. G. Rothwell Adam.
- 34 The Surgical Aspect of Floating Kidney. H. Critchley Hinder.
- 35 Movable Kidney in Woman. J. A. G. Hamilton.
- 36 Cases of Arthritis Resembling Acute Rheumatism. G. R. Baldwin.
- 37 Post-nasal Growths: A Criticism and a Comparison. W. Kent Hughes.
- 38 Case of Malignant Disease of Face Treated by Plastic Operation. W. Moore.
- 39 Good Result Following Extraction of Lenses for High Myopia. James W. Barrett and W. F. Orr.

Bulletin de l'Académie de Médecine, Paris.

- 40 (LXVII. No. 36.) Transmission des maladies parasitaires du sang par les Tabaniens (horse flies). P. Mègnin.
- 41 A propos de la maladie du sommeil (sleeping sickness). Discussion.
- 42 Potable Water in Garrisons. Discussion.
- 43 (No. 37.) *La nature syphilitique et la curabilité du tabes Leredde.
- 44 *..... ionement to Charcot. Raymond.
- 45 *..... Serum and Vaccine. A. Marmorek.

43. Curability of Tabes and General Paralysis.—Leredde proclaims that tabes and general paralysis are curable when

antisiphilitic treatment is commenced in time with adequate dosage. He believes that it is possible to inject a healthy subject with .035 gm. of metallic mercury daily, that is, twenty times the usual dosage of Panas' biniodized oil. Indications are uncertain and unreliable.

45. Marmorek's Antituberculosis Serum and Vaccine.—Marmorek's communication read before the Académie November 17 is not published in the *Bulletin*, only the title being given. A detailed report of it was embodied in an editorial in our last issue. [Our Italian exchanges comment that the principle of the antitoxic serum and the technic of its production are identical with those of Maragliano's serum which has been in constant use for eight years and which has abundantly established its efficacy in appropriate cases. Maragliano's annual reports have been chronicled in THE JOURNAL from year to year. Marmorek's article is published in full in the *Archives Gen. de Médecine* of November 24, No. 47.—Ed.]

Presse Médicale, Paris.

- 46 (II. No. 90.) *La circulation du liquide céphalo-rachidien. F. Cathelin.
- 47 (No. 91.) Exérèse du trijumeau (of the trigeminal). L. Ramonède.
- 48 Hydro-Dilatator for Treatment of Stricture and Dilatation of Cervix. P. Bakaleinik (Kiev).—Traitement des rétrécissements de l'urètre, de l'œsophage, de l'anus. Dilatation du col utérin. Instrument illustré.
- 49 (No. 92.) L'enseignement technique à la clinique ophthalmique de l'Hôtel-Dieu. F. de Lapersonne.
- 50 Atherome aortique expérimental par injections répétées d'adrénaline dans les veines. O. Josué.
- 51 Traitement chirurgical de l'occlusion intestinale algue. L. Braun.

46. Circulation of Cerebrospinal Fluid.—Cathelin announces that we can accept as established a circulation in the cerebrospinal fluid similar to that of the lymph. It issues from the blood and returns to it through the intermediation of the lymph circulation. He describes with diagrams the mechanism as he has traced it out.

Revue de Gynécologie, Paris.

Last indexed page 1171.

- 52 (VII. No. 5.) Les kystes racémeux de l'ovaire. F. Jayle and X. Bender.
- 53 Etude anatomique et pathogénique des kystes hématiques primitifs de l'ovaire. F. Potier.
- 54 *Traitement opératoire de l'exstrophie de la vessie. Transplantation des urètres par le procédé de Maydl. E. Orloff (Charkov).
- 55 De l'occlusion au niveau de l'angle collique gauche (at left angle of colon). H. Morestin.
- 56 Traitement des abcès pélyiens d'origine appendiculaire en particulier par l'incision rectale. L. Bérard and Patel (Lyons).

54. Operations Performed to Date for Exstrophy of Bladder.—Orloff includes in his comprehensive monograph all cases he has been able to find in which Maydl's method of transplanting the ureters has been followed or more or less modified. It forms an array of 61 cases including 5 from his own experience. Three of his patients did not long survive the operation. The results were excellent in the 2 others. He also reviews other operative methods with their results to date.

Semaine Médicale, Paris.

- 57 (XXIII. No. 46.) *Multiplicité et complexité des produits solubles développés au cours d'une infection. Charrin.
- 58 Letter from America. F. Munch.—L'exercice de la médecine aux Etats-Unis.
- 59 Les courants de haute fréquence dans le traitement de la méralgie parasthétiqua. H. Bordier.
- 60 La photothérapie des adénites et des arthrites tuberculeuses. Bellemanière.
- 61 Traitement du lupus par les cautérisations ignées associées aux applications d'acide picrique. Gailleton.
- 62 (No. 47.) *La dilatation forcée du sphincter anal comme moyen de traitement de l'entérocolite muco-membraneuse. A. Roussel.
- 63 Letter from America. Le corps médical aux Etats-Unis. F. Munch.

57. Products Elaborated During Infections.—Charrin has for years been conducting experimental researches with the *Bacillus pyocyaneus*, as reported from time to time in these columns. Reviewing his own work and that of others he remarks that two principal characteristics mark the progress of medical science in late years: 1, the realization of the fact that most of the symptoms and changes that develop in the course of infections are due to the action of toxins, a multiple

and complex intoxication. Some of the toxins proceed directly from the bacteria, others indirectly from their action, either from the changes induced in the humors or tissues by the direct action of the germs or their secretions and excretions or from the reactions of the cells and organs under the influence of these elements. This mechanism of intoxication may proceed from the interior or exterior; it may be organic or inorganic, of bacterial or cellular origin. In other words, the same as in actual poisonings or autointoxications, the toxic compounds preside over the genesis of the infectious or diathetic accidents. The second characteristic of recent progress is the growing importance accorded to the organism itself, the *rôle de l'économie*, as Charrin calls it, in the genesis of pathologic conditions. We have already partially restored the "soil" to its old predominant place in the etiology of disease. We recognize the predisposition afforded by getting chilled, over-exertion, inanition, etc., and the organism is coming into its own in this respect more and more every day. For instance, in very young infants the disturbances consecutive to chronic gastro-enteritis are due in certain cases to the insufficiency of the intestinal defenses. During the acute stage the numbers or the virulence of the poisons engendered in the digestive tract are responsible for the symptoms observed, but in many cases, after this stage is past, the poisons are found to be no more active than those elaborated in the normal infantile intestine. Their peculiarly deleterious action is due to the lack of protection against them. The direct or indirect action of the tissues and of the physiologic apparatus in the mechanism of morbid phenomena is becoming more manifest every day. Cellular pathology is resuming its rights, not altogether Virchow's old cellular pathology, but a conception singularly enlarged. The idea that a microbe engenders disease by the aid of its toxin is being shown up more and more to be altogether too limited and inadequate to conform to what we are learning in regard to the multiplicity and complexity of the soluble products elaborated during the course of an infection by the interaction of bacteria and the cells of the organism. Immunity is only a special phase of nutrition, the consequence of these interactions.

62. Dilatation of Anus as Cure for Enterocolitis.—Roussel had occasion five years ago to treat a woman of 40 for both fissure of the anus and mucomembranous enterocolitis. He proceeded to the forcible dilatation of the anal sphincter for the first trouble and found to his surprise that the second was also favorably influenced and soon healed. He has since treated 4 other cases of mucomembranous enterocolitis alone by forcible dilatation of the sphincter, and in each case the results of this intervention have been equally satisfactory. One of the patients had two relapses, once during pregnancy and again during lactation, and in another patient the stools occasionally show a tendency to the mucomembranous form, but it is speedily dissipated by a little castor oil and oil injections. He attributes the success of the measure in these cases to the action of the dilatation in arousing the contractility of the atonic colon and banishing the spasmodic contraction of the lower part of the intestine. He prefers the fingers to any instrument for the dilatation, and afterward inserts a wick in the rectum, expelled with the first discharge. Any tendency to constipation afterward is easily corrected by the ordinary drugs, previously ineffectual.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 1374.

- 64 (LXXI. No. 2.) *Ueber Pseudo-Leukämie und verschiedene verwandte Krankheitsformen. A. Pappenheim (Berlin).
- 65 Mechanism of Ileus from Knot Formation. G. Ekelhorn.—Ueber die gewöhnlichsten, durch Verknotung verursachten Formen von Ileus, mit bes. Rücksicht auf den Mechanismus der Knotenbildung.
- 66 *Perforating Strumitis. E. Payr (Graz).—Ueber Kropf-Fisteln.
- 67 *Ein Neuer Blasenschnitt (Cystotomia perinealis). R. Frank (Vienna).
- 68 *Dangers of Raising the Pelvis. P. Kraske.—Ueber Beckenhochlagerung und ihre Gefahren.
- 69 Extirpation of Scapula. K. G. Lennander (Upsala).—Extirpation des rechten Schulterblattes wegen chronischer Myelitis; Fixation des Oberarms am Schlüsselbein durch einen Metaldraht und durch Muskel-Plastik.

- 70 *Tuberculosis of Posterior Segments of Spine. J. Wieting.—Ueber die Tuberkulose der Wirbelsäule, besonders ihrer hinteren Abschnitte, und über die Entstehung retropharyngealer Abszesse.
- 71 The Barbadoes Glandular Affection. Gross (Jena).—Die Drüsenkrankheit von Barbados.
- 72 *Perforatio thoracis translateralis duplex mit Ausgang in Heilung. Franke (Brunswick).
- 73 *Experimental Research on Action of Local Stimulation and Local Application of Heat. Wessely (Berlin).—Zur Kenntnis der Wirkung lokaler Reize und lokaler Wärmeapplikation (nach Experimenten am Auge).
- 74 Zur Aetiologie der Blasen-Ektopie. Enderlen (Marburg).

64. Pseudo-Leukemia and Allied Affections.—Pappenheim summarizes his views in the statement that multiple myeloma and malignant lymphoma as well as the spleen affection, pseudo-leukemic splenomegaly, are merely various manifestations of one and the same process, a hyperplastic-lymphosarcomatous process—pseudo-leukemia.

66. Goiter Fistula.—Payr has had occasion to observe 4 cases of perforating strumitis. He reports the details, with cuts, and reviews 36 similar cases which he has found in the literature. Treatment can be only the extirpation of the fistulous tract and part of the gland involved. This operative intervention is rather difficult but is imperative on account of the dangerous complications liable to set in at any moment.

67. Perineal Cystotomy.—By a transverse incision of the perineum followed by detachment of the rectum, the bladder is freely exposed without the interposition of urethra, etc. Frank has operated on the bladder in 3 cases by this method and has found it superior to others, as he details at length.

68. Dangers of Raising the Pelvis.—Kraske's communication has previously been referred to in THE JOURNAL as it was presented at the German Congress of Surgery. He reports 2 fatalities which he ascribes to the Trendelenburg position. In one case the heart was degenerated and the distension of the organ and high pressure of the blood in the inferior vena cava entailed acute and irreparable dilatation of the heart. The conditions noted in the second fatal case demonstrate that it may be dangerous to raise the pelvis in obese subjects, especially those with very fat omentum, mesentery and appendices epiploica, as these factors favor displacement of the intestines and consequent occlusion. Pressure against the liver may induce congestion in the portal vein and congestion and hemorrhage in the stomach lining. Postoperative gastric hematemesis may be due to this cause. He advises shortening or avoiding altogether the Trendelenburg position in operating on very corpulent subjects, suggesting that its effects should be counteracted afterward by raising the other end of the trunk as soon as possible, and avoiding the use of all constricting bandages.

70. Tuberculosis of Posterior Segments of Spine.—Wieting presents a careful study of 14 cases of this affection and 89 he has collected in the literature. He practices in Turkey.

72. Complete Perforation of Chest from Side to Side by Broom Handle.—The case described was one that caused much comment at the German Congress of Surgery. A woman fell from a step-ladder on a broom handle which entered at one axilla and emerged at the other, but without breaking the skin at the latter point. There was traumatic pneumothorax, also extensive subcutaneous emphysema which acted as a safety valve for the air accumulating in the thorax. The various organs in the chest had been pushed aside without injury. When seen five and one-half hours after the accident, each axilla was tamponed tight and constricting bandages applied. The air was soon absorbed and recovery was prompt and complete with no signs of infection.

73. Local Irritations and Application of Heat.—Wessely's experiments have convinced him that local application of heat attracts the immune bodies to the points where they are needed to defend against invasion of microbes. His interesting experiments were made on rabbits' eyes.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1236.

- 75 (XXXIX. No. 3.) *Zur akuten Osteomyelitis im Gebiete des Hüftgelenks (in hip). B. Honsell (Tübingen).

- 76 *Beitrag zu den extrakraniellen Aneurysmen der Carotis interna. C. Blauel (ibid.).
- 77 *Ueber primäre Tuberkulose der quergestreiften Muskeln (of striated muscles). E. Zeller (ibid.).
- 78 *Resultate der Exstirpation des tuberkulösen Sehnen-Scheiden-Hygroms der Hand. B. Zöppritzt (ibid.).
- 79 *Retropharyngeal Tumors. H. Hellendall (Strasburg).—Ueber retropharyngeale Geschwülste.
- 80 *Treatment of Fractures of Patella and Remote Results. G. Schmidt (Breslau).—Entstehung und Behandlung der Kniegelenksbrüche mit besonderer Berücksichtigung der Dauererfolge.
- 81 *Zur Diagnose und Therapie der Kleinhirnsabszesse (cerebellar abscesses). W. Lossen (Carlsruhe).

75. Acute Osteomyelitis in Hip.—In early childhood this process is liable to be comparatively benign. Later in life the severer cases, with suppuration of the joint, should be treated by amply exposing and resecting the parts. Under other conditions conservative treatment is generally indicated. Including the moderately severe and the milder cases, the record in the Tübingen clinic is now 121 cases with a mortality of 14 per cent. Twelve died without any operative intervention, and 3 of the fatal cases had been treated by resection and 2 by exarticulation. The x-ray is the most useful aid for diagnosing the condition and its consequences, as Honsell demonstrates by numerous examples and an anatomic study of the parts involved. Recovery was complete in 89, including 38 with ankylosis, 29 with spontaneous luxation and 21 with detachment of the epiphysis. Resection was done in only 19 and exarticulation in 2 cases. Total mortality, 14 per cent.

76. Extracranial Aneurism of Carotid.—The patient was a woman 58 years old who had suffered for ten years from an aneurism of the internal carotid. Sudden rupture causing a false aneurism entailed severe symptoms of dyspnea, neuralgia, etc., requiring tracheotomy. The rapid increase in size of the tumor imposed further operation and the common carotid was ligated and the aneurism extirpated, with complete success.

77. Primary Tuberculosis of Striated Muscles.—Zeller reports 2 new cases.

78. Tuberculous Hygroma.—Zöppritzt states that 35 cases of tuberculous hygroma in a tendon sheath on the hand have been treated by extirpation of the cyst at the Tübingen clinic. All but 14 were male subjects, and the majority were between 20 and 40 years old. The remote results in 31 cases are known; three-fourths of the patients have been completely cured during the years that have elapsed since, up to fifteen in some instances. The functional results were perfect in 11 cases and nearly perfect in 13. Recurrence was observed in 9, and 4 of the patients have succumbed to an intercurrent disease.

79. Retropharyngeal Tumors.—Hellendall's experience with extrapharyngeal operations has been more favorable than with the intrapharyngeal; the subsequent infection and mortality are much less with the former. He reviews 31 cases, including 23 treated by radical intervention, and confirms the assertions of others in regard to the almost exclusively connective-tissue nature of these tumors. Out of 27 examined under the microscope, only 2 were of epithelial nature and only 10 benign tumors. His article discusses the subject from various points of view, symptoms, course, location, etc.

80. Fractures of Patella.—Fifty-two cases of fracture of the patella have been observed at Breslau. In 31 cases the patella was sutured, while 17 were treated by massage alone. The fracture may be due to contusion or laceration, and the latter particularly requires suture as it prevents extravasation, interposition of soft parts and canting of the fragments, while it insures firm union and permits early movements of the joint. In case of a recent fracture the incision is made across, but in old cases the parts are incised lengthwise. With a recent fracture it is deemed best sometimes to suture with aluminum bronze wire the parapatellar lacerations. As a general rule, however, no suture is attempted unless asepsis is reasonably certain. Schmidt reviews the particulars of the entire series.

81. Diagnosis and Treatment of Abscess in Cerebellum.—Eight out of 10 cases of cerebellar abscess have been operated

on at Carlsruhe by von Beck, and three have been permanently cured by the intervention. The cause of the abscess was invariably a chronic suppuration in the ear. In 8 cases there was a cholesteatoma of the tympanum, in 2 inflammatory or suppurative mastoiditis. In 6 cases the abscess was on the left side and in 1 it was bilateral. It must be opened at once and an accompanying meningitis is not an absolute contraindication unless too extensive. Prompt operation is imperative even on a presumptive diagnosis, at least opening up the sinus and dura, with exploratory puncture and incision. Beck's technic is described in detail, with brief notes on the various cases.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

- 82 (XXIX, No. 46.) *Zur Aetiologie der Ruhr (dysentery). Jürgens (Berlin).
- 83 Ueber pustulöse Typhus-Roscola nebst bakteriologischen Untersuchungen. E. Brubbaum und H. Weber.
- 84 *Zur Asepsis des Katheterismus und der Cystoskopie. L. Casper (Berlin).
- 85 *Substitut of Radius by Ivory Rod. K. Vogel durch satz der ganzen Radius-Diaphyse
- 86 Zur Bloemie der ... W. Liepmann und E. Opitz.
- 87 *Prevention of Iodism. F. Lesser.—Zur Kenntnis und Verhütung des Jodismus.
- 88 Ergebnisse der vom 1892 bis 1902 in Garnison-Lazareth zu Allenstein beobachteten Pneumonie-Fälle. F. Becker.
- 89 *Sterilization of Silk by Diffusing Currents. J. Ausin (Erwähnen).—Sterilisation chirurgischer Seide durch Diffusionsströme.
- 90 The German Life Insurance Societies During 1902. Guttstadt (Berlin).—Die deutschen Lebensversicherung-Gesellschaften im Jahre 1902.
- 91 Soziale Medizin und Hygiene. Landsberger. Professional Matters. Ibid.—Ständesangelegenheiten. Umschau.
- 92 (No. 47.) *"Occult" Blood in Feces as Sign of Ulcer. J. Boas.—Ueber die Diagnose des Ulcus ventriculi mittelst Nachweises occulten Blutanwesens in den Fäces.
- 93 *Zur Prophylaxis des Magenkrebses (gastric cancer). W. A. Katz (Hamburg).
- 94 Study of Movability of Heart. H. Silbergleit.—Zur Kenntnis der Herzbeweglichkeit.
- 95 Isolated Laceration of Crucial Ligaments of Knee. Pagenstecher.—Die isolirte Zerreissung der Kreuzbänder des Kniees.
- 96 Zur Hernien-Tuberkulose. Abel.
- 97 Perforation of Gallstone into Stomach. Fleck.—Durchbruch eines Gallensteins in den Magen.
- 98 Prophylaxis einer Malaria-Epidemie mittelst Chinin-Therapie. P. C. Korteweg (Wormerveer).
- 99 Ueber Jod-Ferritose bei Skrophulose und Lues. L. Bardach.
- 100 Industrial Protection of Workmen and Permanent Exposition. T. Sommerfeld (Berlin).—Gewerblicher Arbeiterschutz und die ständige Ausstellung für Arbeiterwohlfahrt.
- 101 Für Darwin. B. Rawitz.

82. Etiology of Dysentery.—Jürgens denies that dysentery can be due to a single variety of bacilli and describes an epidemic of 26 cases of severe dysentery which occurred in a certain regiment during the August military maneuvers in West Prussia. He cultivated from the stools in 19 cases a bacillus resembling that of Flexner's and agglutinating with a Flexner animal serum. It differed in several respects from the Kruse-Shiga and other bacteria. The serum of the patients agglutinated the isolated bacilli.

84. Asepsis in Catheterization and Cystoscopy.—Casper recommends a mixture of glycerin, water and tragacanth with 1/500 mercury oxycyanate as an ideal lubricant for catheters and sounds. It is similar to the lubricants proposed by Guyon and Kraus, but has the advantage that it does not irritate the urethra, renders the instruments extraordinarily smooth and slippery, is rapidly soluble in water and dissolves as soon as the instrument is inserted in the bladder, without obscuring the view through the cystoscope. It can be kept in paint tubes, ready for use at any moment. For rinsing out the bladder he has discarded boric acid, etc., in favor of mercury oxycyanate, 1/5000, as it is limpid, does not irritate the tissues or injure the instruments and although not a strong antiseptic yet has power to inhibit the growth of microbes. He sterilizes the cystoscope and catheter by mechanically rubbing all the parts with three gauze sponges dipped in tincture of soap, using each a minute in turn. The instrument is then wrapped in a compress impregnated with tincture of soap and left in it until needed. The removable parts are boiled for five minutes.

85. Ivory Radius.—A little girl fell on her arm and caries developed in the radius with almost complete destruction of the diaphysis. It shelled out as a sequester and was substi-

tuted by an ivory rod fitting into the epiphysis at each end. The child goes to school and plays like other children, using her hand as before. Only active pronation and supination are a little difficult or restricted, otherwise the hand functions perfectly. Radiograms a year later show considerable proliferation from the retained periosteum and epiphyses, and the slight functional disturbances have all subsided. Vogel remarks that the experiment has thus been crowned with perfect success, and whether the ivory rod is absorbed or expelled later or tolerated as a foreign body is immaterial so far as the success of the intervention is concerned.

87. Iodism.—Lesser explains iodism as the effect of the iodized alkalis suddenly flooding the organism and pouring out through the mucous membranes. This afflux of alkali causes a catarrhal condition in the mucosa which is the cause of the iodine intoxication. He suggests in prophylaxis that the iodine salts should be administered in a mucilaginous vehicle to render absorption slower and more gradual. Also that the daily quantum should be fractioned into as many doses as possible. It may be advisable sometimes to administer the iodide per rectum, which also retards absorption. Another prophylactic measure is to use the iodine in the form of iodized fats or by injections of iodipin. It might be possible to commence with small injections of iodipin to accustom the organism gradually to the action of a moderate circulation of iodine, in cases of very pronounced idiosyncrasy against it, and then gradually substitute internal administration.

89. Sterilization of Silk by Diffusion Currents.—Ahlfeld and Vahle announced as long ago as 1896 that alcohol and water have no disinfecting power alone, but when one is added to an article impregnated with the other, the diffusion causes currents in and around the bacteria which kill staphylococci in two minutes. Ausin has been applying this suggestion to the sterilization of silk. He first boils it in alcohol to remove all fat, impurities, etc. It is then set aside to dry and before an operation it is boiled in water for twenty minutes, then placed for five minutes in alcohol, then for five minutes in water and again boiled in alcohol for twenty minutes. He has not had a single stitch abscess or mishap of any kind since he has been using silk thus prepared.

92. "Occult" Blood in Feces Sign of Gastric Ulcer.—Boas is much surprised that more attention has not been paid to his previous announcements of the pathognomonic importance of minute quantities of blood in the stomach content or feces as a sign of some ulcerative lesion in the stomach lining. (See THE JOURNAL of September 20, 1902, p. 726, abstract 42.) These occult bleedings have just as much importance as pronounced hematemesis or melena, and will frequently decide a dubious diagnosis long before any physical signs of a tumor are present. This is especially the case when due attention is paid to the familiar sensitive point in the epigastrium and the other painful point in the back, near the left, twelfth dorsal vertebra, to which he has called attention. It is a simpler matter to detect this occult blood in the feces than in the stomach content, as the introduction of the stomach sound is liable to cause a slight erosion which might bleed and thus lead to erroneous deductions. Minimal amounts of blood can be readily detected in the feces with the sensitive guaiacum test, which has revealed blood in the feces after ingestion of even as small an amount as 3 c.c. Boas mentions as an instance of the delicacy of the test that in a case in which a gastric ulcer was suspected, no blood was found in the feces on repeated investigation until one day and then it was learned that the patient's gum had bled very slightly while the teeth were being brushed. Every precaution must be taken to exclude raw or partly cooked blood from the diet for two days before the test, and also to insure soft stools with Carlsbad salts or something of the kind. Menstruation, hemorrhoids, etc., must also be excluded. The occult bleeding was frequently noted when the subjects had recently complained of pains in the stomach. This was particularly the case when the patient was not on an "ulcer diet." On the other hand, after restricting the patient to a strict milk diet for several days it was usually impossible to detect any

blood in the feces. When the blood persisted in the feces on a milk diet, the assumption was strongly in favor of carcinoma developing on the basis of an ulcer. The blood findings may vary from day to day and consequently repeated investigation is necessary. Boas has had his presumptive diagnosis of an ulcer confirmed by these occult blood findings in 25 cases. It has proved still more valuable, however, in the cases in which the diagnosis and consequently the justification for treatment wavered between a purely nervous cardialgia and ulcerative processes in the mucous lining of the stomach or duodenum. His doubts have been banished in many instances of this kind and appropriate treatment successfully instituted solely on the basis of the determination of these occult bleedings. They require the same critical judgment as more copious hemorrhages and, in fact, may be merely the preliminary to the latter. These occult bleedings will be found very valuable from a therapeutic point of view, as by their aid we are able to trace the results of treatment, to learn whether bismuth, silver nitrate, etc., actually improve the morbid conditions to the extent anticipated. They have already established beyond question the great value of a strict milk diet for the healing of ulcerative processes in the stomach. On such a diet the occult bleeding ceases and blood can no longer be detected in the feces, even after resumption of a mixed diet. The softer consistency of the milk may have something to do with the benefits derived, and further studies in this line are urgently needed. Boas thinks that it is impossible to treat an ulcer subject as an out-patient. The duration of treatment varies in the practice of different physicians from two to six weeks. With the aid of the occult blood we will be able to establish an individual term of treatment in each case dismissing the patient as soon as repeated tests fail to disclose further occult bleeding for several days in succession. The technic of the tests is very simple. About 20 c.c. of ether are added to 5 to 1 gm. of soft or softened stools. This removes the fats and prevents disturbing emulsions later. About 3 to 5 c.c. of glacial acetic acid are then added to the feces and the whole is poured into a test tube and extracted again with ether. There must be no admixture of alcohol as this disturbs the test. As guaiacum dissolves readily in ether it is not necessary to use the tincture. A few grains of finely pulverized guaiacum resin are added to the ether extract, the whole is carefully shaken and then 20 to 30 drops of oil of turpentine are added. The whole is shaken up again and then set aside. The color gradually changes to a violet or blue, rendered still more intense by addition of chloroform. This blue tint is sometimes masked by the brownish color of the fluid and the findings of the test can be controlled by repeating it with Klunge's aloin test. As much aloin as can be taken up on the tip of a small spatula is placed in a test-tube and lightly shaken up with 3 to 5 c.c. of 60 to 70 per cent. alcohol. The acetic-acid and ether extract of the feces or stomach content, prepared as above described, is treated with 20 to 30 drops of turpentine and then immediately afterward with 10 to 15 drops of the freshly prepared aloin solution. In the presence of blood the fluid rapidly assumes a bright red color which turns to a fairly durable cherry red as it stands. If there is no blood the fluid remains yellow for an hour or so and then becomes a light pink. The color changes may be hastened by adding a few drops of chloroform. Boas makes a practice of conducting the two tests as controls, and believes that the aloin is superior in several points to the guaiacum. It is not influenced by the presence of fats or fatty acids and is sometimes positive when the guaiacum findings are dubious. Only once in his experience was there a pronounced guaiacum reaction with no aloin response. A still further modification of the technic is the substitution of dilute hydrogen dioxide for the oil of turpentine. In both the tests the response is just as characteristic with the addition of 25 to 30 drops of this fluid as with the turpentine.

93. Prophylaxis of Gastric Cancer.—Katz comments on the rarity of cancer in that part of the digestive tract in which the chyme is of a soft consistency. He thinks that gastric cancer would become less frequent if the diet were restricted

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more to soft foods as free as possible from solid substances. He urges that more attention should be paid to thorough mastication, to the use of soft foods and to copious ingestion of fluids while solid foods are being eaten. He believes that by approximating the conditions in the stomach to those which obtain in the duodenum, cancer in the stomach will become as much of a rarity as cancer of the small intestine.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1506.

- 102 (LXX, Nos. 1-2.) *Zur Therapie der Sarkome der langen Röhrenknochen (of long bones). K. Vogel.
- 103 Callus Formation After Fractures. M. Matsuoka.—Ueber die Bedeutung der Knorpelbildung bei Fraktur.
- 104 *Survival of Epidermis Cells in Transplanted Flaps. J. Wentscher.—Zur Ueberlebensfähigkeit der menschlichen Epidermiszellen.
- 105 *Foreign Bodies in Male Bladder. M. Hirsch.—Zur Lehre von den Fremdkörpern der männlichen Harnblase.
- 106 Fistula from Appendix to Umbilicus in Infant Stimulating Permeable Vitelline Duct. G. Lettau.—Fall von Wurmfortsatz-Nabel-Fistel unter dem Bilde des offenen Ductus omphalo-entericus.
- 107 Staining Faculty of Echinococcus Membrane. E. Delbance.—Eine färberische Eigenschaft der Echinokokkenmembran.
- 108 Ischemic Spinal Affection with Tuberculous Spondylitis. Wieting.—Fall von ischämischer Rückenmarksaaffektion bei tuberkulöser Spondylitis.
- 109 *Tuberculosis of Skull. Wieting and Ralf.—Zur Tuberkulose der knöchernen Schädeldecke.
- 110 *Die Katgut-Sterilisation nach M. Claudius. A. Martina (Graz).
- 111 Zur Diagnose und Prognose der Rückenmarksverletzungen (spinal injuries). R. Bernstein.
- 112 *Zur Pathologie und Therapie der akuten Pankreas-Erkrankungen, nebst Mitteilung zweier durch Laparotomie geheilter Fälle. F. Pels-Leusden (Berlin).
- 113 Kasuistischer Beitrag zur Verrenkung des Kniegelenks (Luxatio tibialis anterior). Reintz.
- 114 *Zur Kenntnis der Osteomalacia chronica deformans hypertrophica (Paget). V. Schmieden (Bonn).
- 115 Zur Geschichte der sogen. regionalen Kokain-Anästhesie. A. Krogus. Historical Sketch.
- 116 (Nos. 3-4.) *Plastic Operations on Skull. F. Kayser (Berlin).—Ueber primäre Schädelplastik durch Verlagerung reimplantierter Schädelbruchstücke zwischen die Lamellen der Schädelkapsel, nebst kasuistischen und klin. Bemerkungen zur Schädel- und Gehirne-Chirurgie.
- 117 Ist das Os naviculare carpi bipartitum und tripartitum Grubers das Produkt einer Fraktur? R. Wolff (Berlin).
- 118 Experiences with Injuries of Wrist. Ibid.—Die Erfahrungen über Handwurzelverletzungen verglichen mit den Ergebnissen der Varietäten-Statistik an den Knochen der Handwurzel.
- 119 Beiträge zur Geschwulstlehre (tumors). O. Bender.
- 120 *Recovery After Amputation of Both Thighs for Gangrene. R. Mühsam (Berlin).—Ueber doppelseitige Oberschenkelamputation bei embolischer Gangrän.
- 121 Ueber Cholesteatome (Epidermoide) der Schädelknochen. Blecher.
- 122 *Zur Lehre von den Gelenkmäusen (joint mice). E. Boerner.

102. Treatment of Sarcoma of Long Bones.—Vogel advocates resection instead of amputation or exarticulation in the treatment of sarcomata of the shafts of the long bones. In the case described the humerus was affected, with extensive involvement of the soft parts. The bone was resected its entire length except for the lower 3 cm. Recovery was smooth and the patient has been in good health—no signs of recurrence—during the four years since.

104. Survival of Epidermis Flaps.—Wentscher's latest series of experiments include the preservation of Thiersch flaps for seven to fourteen days in a test tube plugged with cotton. The flap was then transplanted on an exposed muscle, that is, on a tissue free from epithelial elements. In two out of the four experiments, unmistakable evidences of proliferation and regeneration were noted, with considerable mitosis. One of the experiments was negative, and in the fourth no mitosis could be detected.

105. Foreign Bodies in Male Bladder.—Hirsch reports 8 cases observed in his service at Vienna and tabulates the details of 103 other cases published in the literature since 1856. In 2 of his 8 cases the foreign body was extracted instrumentally. In only 4 out of the total 111 cases was the foreign body spontaneously evacuated. Rona managed to expel a piece of a catheter in the bladder by stroking it downward through the rectum. The foreign body was extracted by aspiration in 3 cases.

109. Tuberculosis of Cranial Bones.—Wieting reports 10 cases observed in Turkey. Six of the patients were children between 3 and 10 and the others between 14 and 40. The prognosis depends on the absence or presence of tuberculous

lesions elsewhere. When primary, the affection is usually cured by radical ablation of the focus.

110. Claudius' Iodized Catgut.—Martina has followed Claudius' method of preparing catgut in 70 cases, and healing was by primary intention in all but two, and in these cases the suture was above reproach. No untoward symptoms from the use of the iodine were observed in any instance. It evidently enhances the strength of the catgut, but this effect is transient. After five or six days the threads become so loose that the catgut can not be safely used for suturing the skin, muscles or fascia, and hence can not be used in herniotomies. Its chief field of usefulness is for ligatures, especially in operations on goiters and in amputations. He omits the rinsing in carbolic solution which Claudius regards as indispensable. Experimental tests of the iodized catgut are described, all confirming the above statements.

112. Acute Pancreatitis.—Pels-Leusden had occasion to treat 2 patients who exhibited symptoms of peritonitis accompanied by violent vomiting and extreme heart weakness. The abdominal cavity was opened and the pancreas region merely drained with a strip of iodoform gauze as patches of fatty necrosis were discovered in the pancreas and, in one case, a large amount of a yellowish slightly turbid exudate was found in the abdominal cavity. The vomiting ceased at once after the operation and the patients promptly recovered. They were both women, one 21, the other 53 years old. The writer is convinced that abdominal fatty tissue necrosis is invariably due to an affection in the pancreas accompanied by stagnation of the secretions in the organ.

114. Osteomalacia Chronica Deformans Hypertrophica.—The right tibia was involved in the case described by Schmieden, the patient a woman of 58. The bone was very much enlarged with curvature and with brown pigmented patches on the skin. After amputation it was found that the bone substance was so soft it could be indented with the fingernail. The microscope showed that the normal bone tissue had been destroyed, and that there was very little new bone formation, with almost entire absence of lime salts. A wedge of the tibia was resected at first, with rapid healing. Later, part of the knee was removed, the wound suppurating interminably until the patient begged for amputation, which freed her once and for all from her affection, which had lasted for three years.

116. Skull Plastics.—Kayser believes in reimplanting the bone fragments in case of traumatic defects in the skull, whenever such a course is practical. Pieces of the inner table are especially favorable for the procedure as they can be readily fitted into place and owing to their smooth inner surface do not induce formation of adhesions. The application of the fragments to close the defect must immediately follow the injury. The fragments of the inner table should be turned to fit them into place in the cancellated tissue between the tables. By this fixation all danger of pressure on the brain from any loose sequestra is prevented, as also prolapse of the brain. Secondary plastic operations are not interfered with, while it is thus possible to close the gap in the skull at once, even in case of injury of the protecting membranes and of the brain itself. In a case thus treated there was a depression in the skull, 7 by 5 cm., and 1.5 cm. deep, in the posterior half of the left parietal bone. The bone was cracked and broken into a number of pieces, the brain substance below much injured. After the fragments had been removed, the wound cleansed and hemorrhage arrested by tamponing, two of the large pieces of the inner table were reimplanted in the defect, turning them around so the longer diameter of the bones bridged the shorter diameter of the gap. No narcosis was necessary and all the symptoms gradually subsided so that the young man now considers himself well. The inner table always fractures more extensively than the outer one in such injuries, and is peculiarly adapted for auto-plastics in these cases.

120. Embolic Gangrene.—The prompt recovery after amputation of both thighs in the case reported should encourage others to resort to operation in time. The patient was a man of 41 and the gangrene developed suddenly a week after an

attack of grippal endocarditis. The case indicates that the presence of numerous bacteria in the blood does not contraindicate amputation. The stumps should be merely tamponed at first. In a second fatal case described the gangrene developed after typhoid, and the slow, gradual course suggested thrombosis, but an embolus was found in the right iliac artery and another in the left hypogastric, with an embolic thrombus at the bifurcation of the aorta.

122. Joint Mice.—Boerner devotes 54 pages to a clinical and pathologic-anatomic study of loose bodies in the joints, profusely illustrated. Thirty-five cases are described in detail. He rejects the assumption of an inflammatory origin.

Münchener Med. Wochenschrift, Munich.

- 123 (L. No. 45.) *Ueber Psychiatrie und experimentelle Psychologie in Deutschland. W. Weygandt (Würzburg).
- 124 Compressed Yeast and the Fermentation Test. E. Münzer (Prague).—Dauerhefe und die Gährungsprobe.
- 125 Ueber bemerkenswerthe Complicationen im Verlauf der Carcinoma ventriculi. F. Kaufmann.
- 126 *Zur Kenntnis der Hyperhidrosis universalis. F. Müller.
- 127 Tabes incipiens und Syphilis cerebro-spinalis. A. Schittenhelm (Breslau).
- 128 Zwei Fälle von Verletzung hydrocephalischer Gehirne (brain injury). Marekwald.
- 129 *Die familiäre amaurotische Idiotie und ihre Diagnose. A. Mülberger (London).
- 131 Hygiene und Zuchtwahl (natural selection). Kossmann.
- 132 (No. 46.) *Functional Kidney Tests. R. Göbell.—Zur funktionellen Nieren-Diagnostik.
- 133 *Zur Narkose in der Gynäkologie mit bes. Berücksichtigung der Witzelschen Aether-Tropf-Methode. H. Fuchs (Kiel).
- 134 *Die moderne Aether-Narkose. C. Hofmann.
- 135 *Die Aether-Narkose in Verbindung mit Morphin-Skopolamin-Injektionen. C. Hartog (Landau's clinic, Berlin).
- 136 *Morphin-Skopolamin-Narkose. B. Korff (Freiburg).
- 137 Transient Cerebral Disturbance After Exposure to Intense Cold. H. Vogt (Göttingen).—Transitorische Geistesstörung nach intensiver Kälte Wirkung.
- 138 Das Röntgen-Instrumentarium für den Praktiker. H. Kraft (Strasbourg).
- 139 Interrupters in Röntgen Technic. A. Kühler (Wiesbaden).—Erfahrungen über Unterbrecher im R.-Technik.
- 140 Inexpensive Compressing Diaphragm. Faulhaber (Würzburg).—Eine billige Kompressionsblende.
- 141 How to Live in Egypt. E. Fromherz.—Wie kann man in Aegypten leben?

123. Psychiatry and Experimental Psychology in Germany.—Weygandt describes tests of the memory, attention, etc., conducted on mentally affected and on healthy subjects and shows the great value of the results for psychiatry. He also reviews similar research published by other German writers. Among the facts brought out is the rapid and pronounced disturbance in the perceptive faculties entailed by paraldehyde—a fact which explains its prompt sedative action. Tests of the memory before and after an injection of morphin showed that the subject's capacity to memorize unconnected syllables diminished nearly if not quite one-half after the morphin. A still more pronounced reduction in the memorizing tests was observed on subjects purposely kept awake, and also during fasting. He thinks that the results already obtained show the necessity for a laboratory for experimental psychology in every psychiatric clinic, in charge of trained assistants.

126. Hyperhidrosis Universalis.—Gillet has reported a case of hyperhidrosis universalis occurring at the periods of suppressed menses and ceasing as soon as menstruation was normally resumed. This is the only case Müller has been able to find resembling at all the one he here describes. His patient was a trained nurse, who, after a strenuous winter's work, noted hyperhidrosis universalis at the time of the menses, ceasing during the intervals, finally supplanting the menses completely, and becoming continuous. In six months she lost 40 pounds and became very weak, suffering besides from eczema caused by the constant sweating. The symptoms indicated exaggerated oxidation processes, and Müller explains them as the reaction of the organism to excessive functioning of the sweat centers, with the consequent great loss of warmth. The affection was probably a manifestation of neurasthenia. No treatment was effectual and the patient succumbed about eighteen months after the first symptoms had been observed. Postmortem examination was not allowed, and there is a possibility that the trouble may have been due to some brain tumor.

129. Familial Amaurotic Idiocy.—Mülberger relates that in a well-to-do German family, free from morbid taint of any

kind, the two children are both typical specimens of familial amaurotic idiocy only that the eye findings differ a little from those hitherto recorded. The gray atrophy of the optic nerve was the first morbid process observed, and to date is the only one in the eyes of the younger child, while the other presents already the typical appearance in the region of the macula.

132. Functional Kidney Tests.—This communication issues from Helferich's clinic at Kiel and tabulates the findings in 7 cases of kidney trouble in which the functional tests were applied. In spite of their failings it is impossible to dispense with these tests, Göbell exclaims, but he proceeds to prove that certain preliminaries are indispensable. In the first place the patient should be put on a certain standard test diet for several days before the tests are applied. It is important, further, that the urine should be drawn at a certain interval after the meals and that the catheters should be left in the ureters for two or three hours in order that the urine corresponding to certain divisions of time may be examined. The amount of urine and its molecular concentration should both be determined during these separate periods. These points must be regarded, as a surgically affected kidney does not do its work regularly but rather spasmodically, and also because the proportions between the freezing-point and the molecular concentration of the urine from both kidneys vary during the different periods. A still further reason is the fact that the relation between the freezing-point of the urine from each kidney does not correctly represent their functional activity. In 2 of his cases the findings of the functional tests at first would have led to erroneous deductions if they had not been controlled and rectified by repetition of the tests two or three times. The composite findings of three or four tests afforded data confirmed by the operation and its results, as he shows in a comprehensive table.

133. Ether Drop Narcosis in Gynecology.—Fuchs extols the superiority of the ether-drop method of narcosis, especially for gynecology. Chloroform will in future maintain its place as an occasional adjuvant, especially in laparotomies, and also as an indispensable aid in obstetrics. In 300 cases in which he has used the morphin-ether drop narcosis he has had no cases of asphyxia or noticeable cyanosis and only 2 of febrile bronchial catarrh, both consecutive to a laparotomy. Chronic bronchitis is no contraindication to ether. The slightly increased expectoration after the narcosis is rather an advantage than the reverse.

134. Ether Narcosis.—Hofmann states the ideals of modern narcosis as the freest possible intake of atmospheric air and the smallest amount of ether, supplemented if necessary by some other substance. He also lauds the ether drop method among other reasons for its simple technic which does not require the painstaking care needed for chloroform.

135. Ether-Drop Narcosis in Combination with Morphin-Scopolamin Injections.—Hartog is assistant at Landau's clinic and reports very gratifying experiences with the narcosis indicated in the title. He reduced the dose very materially below those recommended by the author of the latter method, injecting subcutaneously only .5 mgm. of scopolamin and 1 cg. morphin at another point thirty minutes to an hour before the operation. In 93 cases in which this technic was followed there were none of the inconveniences of the usual narcosis, no vomiting nor agitation, etc.

136. Morphin-Scopolamin Narcosis.—Korff is the originator of this method and announces that a few unfavorable experiences reported by others impelled him to seek the minimum doses possible to induce narcosis. He gives the particulars of 50 important operations done under his modified technic. He does not use it on patients under 16 nor over 60 years of age, but in all other cases applies it without reserve. He has found that equally good results are attained when only .001 gm. scopolamin hydrobromate is used and .25 gm. morphin in 10 gm. distilled water. He injects one-third of a Pravaz syringe two and a half hours before the operation, another third one and a half hours, and the other third half an hour before.

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THE CAUSES OF THE OCCASIONAL FAILURE OF OPERATION TO CURE GALLSTONE DISEASE.*

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Surgery of the gall bladder and bile passages is one of the most satisfactory branches of our art. The death rate, taking the cases as they come, is hardly more than 5 per cent., and in uncomplicated cases less than 2 per cent., the result depending to a large extent on the condition of the patient. Including all causes of failure to cure, either complete or partial, and such late sequelae as adhesions and hernia, the number of such instances is small. In 631 operations on the gall bladder and bile passages we had but 19 cases, or about 3 per cent., which required a secondary operation. During this period, however, we have on a number of occasions operated a second time for symptoms arising after an operation performed elsewhere. It is fair, therefore, to presume that some of our cases have, unknown to us, been operated on at a later period by other surgeons, and that failures to establish a complete cure have been more numerous than this percentage would seem to indicate. It must be taken into consideration also that many patients have symptoms referable to uncured lesions, which are not sufficiently serious to demand operation, and these may be accounted as partial or temporary failures; but looked at even in this light, gallstone surgery is signally successful, and practically all of the patients are benefited, and few would exchange their post-operative for their previous condition. Lack of experience and poor methods made incomplete operations relatively more frequent in our early work. At the present time the accumulated knowledge of the profession has given a technic which is gradually enabling the surgeon to avoid errors and to overcome those causes which lead to subsequent troubles. Of course, in rare instances, the condition of the patient may not warrant a complete procedure at one sitting, and a two-stage operation is deliberately elected.

With a single exception, to be referred to later, all of the cases in which results were less perfect than were desirable, occurred in complicated cases, and it can be laid down as an axiom that delay in seeking surgical relief is the direct cause of the complications. It is the general experience that complicated cases have usually had symptoms during a period sufficiently prolonged to have made a diagnosis possible before the develop-

ment of serious lesions, and that an operation at that time would have been safer and cure more certain.

I would here refer to the clinical fact that a small number of patients who have had a cholecystostomy performed will have a colic or two following operation, and sometimes accompanied by transient jaundice. We have seen this most often during the first month or two after discharge from the hospital. In the large majority of instances the colics do not recur and the patient remains well. The temporary trouble is probably due to a crippled gall bladder becoming filled, and by reason of recent adhesions not emptying properly, so that based on a single spell of pain shortly after closure of the fistula a second operation may not be necessary unless there are other evidences of trouble.

The most common cause of future symptoms is incomplete removal of stones. In the original work of Tait, he advocated cholecystostomy and drainage based on the frequency of overlooking stones, as it enabled spontaneous discharge. In our early experience we had in one case 55 calculi work out of the fistula during the first two weeks. There is, however, little excuse for leaving stones in the gall bladder, as by using the finger as a guide it will be rare that even a small calculus will be overlooked.

Stones in the cystic duct frequently escape attention, and it was only after several such misfortunes that we began to exercise greater care in exploring this canal. The parts are deeply situated, and as these patients are often obese it was not easy to locate such a calculus previous to the development of the Robson technic. The sand bag under the back, with the high incision, usually enables us to dislocate the liver downward and outward, exposing both the cystic and common ducts. In most of these cases of stone impacted in the cystic duct cholecystectomy is indicated. The duct and cystic vessels are caught with curved forceps just beneath the impacted stone and tied. These structures are then cut across, and the gall bladder and duct with the stone removed from below upward, almost by traction alone, with an occasional division of some more firm adhesion to the liver. The gall-bladder notch in the liver should usually be drained down to the ligated duct to guard against leakage. Should there be difficulty in tying the vessels, the forceps may be left on and lightly surrounded with gauze. The forceps should be loosened in 36 hours, but not removed until 6 hours later. By this time the compressed tissues will have softened and allow easy withdrawal. Twice we have reoperated on cases in which the gall bladder had been removed distal to the stone, leaving it in the duct to cause future trouble. This is more apt to be the case when the gall bladder is dissected out from above downward. The deep field

* Read before the Mississippi Valley Medical Association, Memphis, Tenn., 1903.

is obscured by the blood and the same vessels are cut over and over again.

One source of failure of cholecystostomy to cure is from secondary obstruction of the cystic duct, preventing free drainage of the gall bladder down through the passages. This may eventuate in a mucous fistula or repeated attacks of colics as the gall-bladder secretions are periodically forced through the strictured canal. In some cases the gall bladder will distend and finally rupture through the scar, discharging bile and mucus. In practically all of these cases the cystic duct has been obstructed by stone, causing ulceration, the healing of which induces a stricture, or kinking of the channel may occur. Other things being equal, it is better to excise the gall bladder in all cases in which the cystic duct is involved. In this way we have of late eliminated this, the most common cause of secondary trouble.

In septic cases, drainage is necessary for a long period of time, and if the fistula be allowed to close too quickly, severe symptoms may ensue. We have twice had to reopen and re-establish drainage in septic cholecystitis; both cases were colon infections. This is less liable to happen in ordinary empyema of the gall bladder in which a fistula will usually remain until sterilization has been accomplished by natural processes. In colon infections tubage should be continued until the bile becomes sterile.

Stones are often overlooked in the common duct, as they may lie quiescent for years. The jaundice may be very slight and in some cases not noticeable. The gall bladder in the meantime may become obstructed at the cystic duct, so that this organ may be enlarged and cystic, with calculus at the neck and nothing to call attention to the common duct stone. This is so contrary to the usual condition of contracted gall bladder and open cystic duct in common duct stone as to lead to error. The ducts should be explored with the fingers before opening the gall bladder in every case. After opening the gall bladder the relief of tension prevents moving the stone in the dilated duct, and escape of the cystic contents is apt to soil the field. It is well to explore a second time after tapping, especially if the gall bladder is distended, but before opening the gall bladder with the attendant possibility of infecting the deep parts. If stones are found in the common duct it will usually be sufficiently dilated to introduce the finger into the duct for exploration. In many cases in no other way can we be sure the common and hepatic ducts are clear. If only one stone be present there will probably be jaundice as the duct may contract about it, while if the duct contain several stones the bile may pass by unless there be a large or obstructing stone at the duodenal end. In all of the cases of liver duct stones we have encountered there has been a large stone at the duodenal end of the common duct and stones of the same character in the gall bladder as in the hepatic duct. In one such case we removed 120 stones from the common and hepatic ducts with recovery of the patient.

Chronic pancreatitis may exist at the time of operation, and to obtain a good result drainage must be long continued. We have twice in such cases allowed the fistula after cholecystostomy to heal too quickly. The secondary symptoms were marked by attacks of slight jaundice and occasionally fever and chills, and rather persistent stomach trouble. At the second operation the only cause for the condition found lay in a chronic pancreatitis, and both cases were cured by cholecystenterostomy. We must in every case examine as to the

condition of the pancreas at the same time we explore the ducts, and if this disease is present, either drain the gall bladder for a long time or do a cholecystenterostomy with the Murphy button, in addition to removing the stones. Stones still present, or recently so, in the common duct are the most common cause of chronic pancreatitis, and in two cases we were unable to feel a small stone in the common duct on account of the great size of the head of the pancreas. Prolonged drainage in one case failed to cure the patient, and secondary operation showed a stone in the common duct, but the pancreas had in the meantime greatly reduced in size.

In the second case, cholecystenterostomy was done with perfect relief for a year; return of pain and jaundice rendered a secondary operation necessary. The pancreas was found much smaller. The fistula between the gall bladder and duodenum had completely closed and a stone was found in the common duct. If the obstruction had remained I do not think contraction would have taken place. The drainage was followed by subsidence of the pancreatitis and reopening of the lumen of the duct, rendering the fistula unnecessary, and obliteration of the anastomosis ensued. Had it not been for the stone, cure would have resulted. Before deciding that chronic pancreatitis alone is responsible for the jaundice and symptoms, the common duct should be opened and explored with the finger.

Cancer can also be said to be secondary to stone formation, and may take place after cholecystostomy or, being present, may be mistaken for inflammatory disease. All thick-walled gall bladder should be looked on as suspicious, and as they are functionally useless, cholecystectomy should be done rather than cholecystostomy, and in this way many early cancers will be found and cured.

Early in this paper I spoke of having seen only one uncomplicated case which required a secondary operation. This was a cholecystostomy with a very large gall bladder, the stones were easily removed, and the ducts were free. For weeks after operation there was occasional escape of bile from the fistula, not much but troublesome. On dissecting out the gall bladder it was found that by a low attachment to the abdominal incision this viscus had formed a channel along which, in certain positions of the body, bile would gravitate outward. After cholecystostomy, the gall bladder should be attached as high up in the incision as is convenient.

Persistent biliary fistula usually means obstruction of the common duct. I take it that every one understands the importance of not attaching the gall bladder to the skin. In the early days persistent bile fistula was usually due to a mucocutaneous suture, the evils of which obsolete practice I do not need to point out.

The turning in of the margins of the incision in the gall bladder and drawing a purse-string suture closely about the drainage tube in a similar manner to a Stamm-Kader gastrostomy enables healing of the fistula to take place most promptly after removing the drain.

There are two rather common causes of failure to effect a perfect cure that may not always be avoided. Post-operative adhesions are liable to cripple the movements of the viscera in this neighborhood. Adhesions to the stomach and duodenum are the most annoying. Secondary separation may be necessary with the use of Cargile's membrane. As a rule, like the pain of old pleuritic adhesions, in time relief comes as bands stretch out. We make a rule not to allow gauze drains

to come in contact with the stomach and duodenum on account of the development of adhesions. We always interpose a piece of rubber tissue and leave it from 6 to 8 days, until the adhesive film surrounding the drains becomes organized. Hernia following operation for gallstone disease is not usually troublesome, but long incisions in obese people may give rise to serious hernial protrusion, requiring secondary operation. We now, if practicable, in such cases make a second opening outside the working incision, close to the ribs. Through this the drainage material may be brought out and enable us to carefully close the full length of the original incision. The necessity for this is increased if the opening has been extended downward for the purpose of removing the appendix.

Secondary operations have been comparatively safe in our experience. The patient has become accustomed to the condition and the adhesions form a protective barrier. Separation of the adhesions, particularly about the liver, results in considerable hemorrhage. Rather prolonged gauze pressure usually checks the oozing as the blood pressure in the liver is very low, and enables completion of the operation. Most of these cases require a light gauze drain protected by gutta-percha tissue at points of contact with the stomach or intestine to prevent troublesome adhesion to the gauze. Deep drains should be anchored with catgut to prevent displacement by movements of the liver as affected by the diaphragm. The catgut becomes absorbed before the time for withdrawal. The drains should not be removed too early, 6 to 12 days being the usual limits as to the time of withdrawal.

INTESTINAL ANTISEPTICS; THEIR USES AND LIMITATIONS.*

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The multiplicity of drugs used as intestinal antiseptics make it a difficult task to classify them under appropriate headings. Though of necessity in an imperfect manner, I have nevertheless made an attempt to group them, mainly as a matter of convenience in facilitating the presentation of this vast subject. Wherever I think proper, I shall eliminate, or make scant mention of, such agents as experience or reason has shown to be ill-fitted for the purpose under discussion. I shall give more time to such drugs only as have proved to be of decided value; while, in some instances, only a type drug of the group will be taken up, in order to abbreviate matters.

The excuse which I urge for mentioning this large number of well-known drugs is that I thought this an opportune time for establishing their proper place in therapeutics, and for reaching an understanding on what are, and what are not, intestinal antiseptics.

It is well that we now glance for a few minutes at some facts of history which directly and indirectly are associated with the subject under consideration.

It is to Leuwenhoeck, Miquel, Gautier, Selmi, Tanret, Brieger, Kühne and others that we owe much of our

knowledge concerning intestinal bacteria, with their powers of producing fermentative and putrefactive changes of the food, and consequent alterations of the intestinal mucosa. The work of these men culminated in the theory of auto-intoxication, as first advanced by Humbert and greatly elaborated by Bouchard, to the latter of whom is due the credit of first bringing prominently to the attention of the profession the use of intestinal antiseptics.

It is well to clearly define the term antiseptic as I intend to employ it. According to the Century Dictionary, I shall use it as implying "anything which destroys the micro-organisms of disease, putrefaction or fermentation, or which restricts their growth and multiplication."

The first antiseptics which I will consider are those of the aromatic series. In using a quick poison like carbolic acid, great care must be exercised, as doses so small as seven minims have given rise to dangerous symptoms. For my own part, I have eliminated this agent from among those which I use as intestinal antiseptics. In small doses it is not effective, while in large doses it irritates the mouth, esophagus and stomach, causes gastritis and inhibits the activity of the ptyalin and pepsin. In order that a carbolic acid solution be effective in the intestine, it must remain therein for some minutes, and experience has proved that, when this takes place, toxic symptoms are liable to supervene. I have seen such symptoms produced after using a 1:300 solution for colon irrigation in the treatment of tuberculous ulcer of the large intestine, the solution being allowed to remain in the intestine only a few minutes. In one case I used a weak solution of sodium bicarbonate after the carbolic solution, yet toxic symptoms also developed.

Creosote (beechwood) given in doses of ten to fifteen minims in capsules or emulsions, or creosote carbonate in twenty minim doses gradually increased to ninety minims, is safer than carbolic acid; but, in large doses, the symptoms of poisoning by these drugs are somewhat similar to carbolic acid. In patients who show a tolerance to it, and in whom no gastritis or toxic symptoms accompanies its use, beechwood creosote proves a valuable aid in the treatment of tubercular ulceration. A pill containing creosote and coated with keratin has answered well in some cases; whereas, again, the pill passed out with the stools unaltered.

In order to secure the best action from creosote, whether given in pill, capsule, emulsion or whiskey, I find it most satisfactory to administer it about one to one hour and a half after food, as it then finds its way into the intestine sooner than otherwise.

This mode of administration holds good also of all the creosote derivatives. When tolerated in large doses, I find creosote more valuable than its derivatives, guaiacol, guaiacol carbonate, etc.

Kuprianow¹ reports the restraining effect of guaiacol to be 1 to 500 on the cholera spirillum, and suggests its use in the treatment of cholera. When used alone in the treatment of the diarrhea of typhoid fever, I failed to get any good results, and in several cases of that disease I found that it depressed the patients very much, even in doses so small as three minims.

With guaiacol carbonate I have had an extensive experience in both hospital and private practice, using it, in tubercular enteritis, by the mouth in five to ten grain doses, at the same time using tannic acid by colon

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Pres. S. Solis Cohen, George F. Butler and N. S. Davis, Jr.

irrigation. Employed in this way, I have seen good results follow. My experience with this drug, when used alone, in the treatment of the diarrhea of typhoid fever has not been very encouraging. In my own cases, only once have I seen any evidence of toxicity (smoky urine, etc.). This was in a case where I used ten grains four times daily; but I have had patients complain of slight heaviness (indigestion) in the stomach even after five-grain doses, particularly if the drug had been long continued.

As for benzosol, my limited experience with it has not proved that it possesses any superiority over guaiacol carbonate. True, I never noticed any digestive disturbances or toxic symptoms, but then I never exceeded six grains to the dose.

For a long time resorcin held high place as an intestinal antiseptic, especially in the treatment of fermentative conditions in the intestines during infancy and childhood. However, owing to its deleterious action on the kidneys, I have come to use it seldom, and then with caution.

When using salol, the fact should not be lost sight of that it contains 36 per cent. of phenol, and that its use, especially in large doses, has caused, and is liable to cause, symptoms of carbolic acid poisoning. I have seen marked symptoms of carbolic acid poisoning after the administration of two 20-grain doses ten hours apart; and also in two other cases, where the dose given was 10 grains three times daily. In one case the toxic symptoms manifested themselves after nine doses, and in the other case after fifteen doses had been taken. When used alone for the diarrhea of typhoid fever and in dysentery, it has not yielded good results; but improvement has followed its use in simple diarrhea and in the summer diarrhea of children. It is recommended in Asiatic cholera, a condition with which I have not had any experience.

Though an efficient antiseptic, salicylic acid has its limitations. Its pronounced effect on ptyalin and pepsin should be borne in mind as influencing its mode of administration; and, where possible, its sodium salt, which is not so irritating to the kidneys nor so destructive to the digestive ferments, should be substituted. I use salicylic acid in the strength of 3:100 by colon irrigation. A small quantity of sodium borate increases its solubility. In the treatment of diseased conditions of the lower bowel where antiseptic medication is indicated, it has given good results in my hands. In amebic dysentery, where quinin is objectionable for any cause, salicylic acid has often proved efficient.

All the indications are that benzoic acid possesses the same qualities as salicylic acid, and, being less irritating, it should be used more generally than it is at present.

While creolin possesses decided germicidal properties, the fact that toxic symptoms have developed after its use by colon irrigation and vaginal douches, should put us on our guard. The results obtained with creolin are about the same as with carbolic acid, but Behring has shown that, in albuminous liquids, creolin is less effective than carbolic acid.

Naphthalin and naphthol are useful agents in treating intestinal conditions where the contents of the bowel are in a state of putrefaction. They are of little, if any, value in diseases of the intestines where the walls of the intestines are the primary seat of the intestinal trouble, i. e., in typhoid fever.

Benzonaphthol is inferior to naphthalin and naphthol. As for hydronaphthol, I find no difference in its action from that of the two drugs last mentioned.

Naphthalin and its derivatives should not be used in any case where the kidney, bladder or urethra are diseased. Purdy has seen a 5-grain dose produce severe burning along the whole urinary tract.

Thymol is more destructive to putrefactive organisms than carbolic acid. It has been used with some success in the treatment of tuberculous ulcer of the intestine and in chronic infectious enteritis, and is also used for the same conditions as is naphthalin, but, like naphthalin, it is very liable to produce renal irritation.

Ichthyol has a champion in Hemmeter,² who claims excellent results by colon irrigation in colitis; also in enteritis with the emission of offensive flatus and meteorism. He further recommends it in conjunction with bismuth subnitrate and subgallate, by colon irrigation in chronic dysentery. He uses mixtures containing from one to four grams to the liter of water.

Eucalyptol seems to be devoid of any good as an intestinal antiseptic.

Owing to the property that tannic acid possesses of causing indigestion when used in large enough doses to be of value, I have entirely discarded its use by the mouth, and now confine myself to the use of it by colon irrigation. It has proved of value in acute and chronic infectious enteritis; and in tubercular ulcer of the lower bowel it is one of the most valuable agents which we possess. Before using the colon irrigation, the bowel should be well cleansed with plain sterilized warm water, or a warm normal saline solution. One liter of warm tannic acid solution 1:500 or 2:500, should be introduced into the lower bowel and allowed to remain for 10 or 15 minutes.

When used by the mouth, tanniform is of considerable value in the treatment of tuberculous ulcer above the ileocecal valve, especially if combined with tannigen, tannalbin or other drugs of this class.

We will next consider the peroxid series. Hydrogen peroxid is indicated in any condition of the lower bowel where pus is in evidence. Another body analogous to hydrogen peroxid, and which gives much promise of efficiency, is benzoyl-acetyl-peroxid (acetozone). Drs. Freer and Novy³ have made extensive researches into its germicidal action, and have reached results which prove it a superior germicidal agent. It has been used by Dr. Wasdin⁴ and others in the diarrhea of typhoid fever; and Drs. Freer and Marshall⁵ report good results in cholera and dysentery.

Dr. R. T. Strong of the Biologic Laboratory, Manila, says: "Quinin in enemata has usually given the best results in the treatment of amebic dysentery. The advantages of acetozone over quinin are quite apparent. It is capable of killing amebæ even in dilute solutions, and attacks the bacteria which are present in the intestines, greatly reducing the number of micro-organisms in the stools." My own experience is confined to the use of acetozone in six cases. In two cases of intestinal tuberculosis, the bowel condition grew better after the third day, and the patient gained in strength and weight. In one case of advanced pulmonary tuberculosis accompanied with intestinal lesions, no improvement

2. Hemmeter: Diseases of the Intestines, 1902.

3. Drs. Freer and Novy: American Chemical Jour., March, 1902.

4. Wasdin: Therapeutic Gazette, May 15, 1902.

5. Drs. Freer and Marshall: U. S. Government Laboratories, Manila.

was noticed. In three cases of typhoid fever with diarrhea, the improvement of the bowel conditions was everything that could be desired, and the patients made excellent recoveries. The stools were almost completely deodorized after 48 hours.

The group next in order is the sodium series. When I wish to give preparations of salicylic, benzoic or carbolic acid by the mouth for any condition in the duodenum, or high up in the small intestine, I prefer the sodium salts of the above mentioned acids as antiseptic agents, my preference being sodium salicylate. Holt⁶ thinks well of this salt in the summer diarrhea of children.

Now we come to the bismuth, magnesium, calcium and aluminum series. Owing to the feeble antiseptic action of the salts of the last three drugs, they have not met with much favor as intestinal antiseptics.

The salicylate and subgallate of bismuth are agents of some value. When an insoluble preparation is indicated, as in the treatment of tuberculous ulcer in the lower part of the ileum and of the cecum, bismuth betanaphthol answers a good purpose.

Among the miscellaneous series, I will first consider carbon disulphid. Dujardin Beaumetz says of this agent: "I have obtained most satisfactory results from the point of view of intestinal antiseptics." He further claims it to be superior to all other medicaments in favorably modifying putrescent intestinal processes in typhoid fever. Beaumetz⁷ cites M. Ckiani-Bey and Sape-lier concerning the non-toxicity of carbon disulphid.

Oil of turpentine has given marked results in the treatment of some cases of tuberculous ulcer, especially in cases with pronounced flatulence, improvement in the condition of the stools and in the general condition of the patient took place rapidly.

As for boracic acid, it has not yielded any results in my hands.

Where fermentative conditions, marked by meteorism and tympanites, are very active in the bowel, sulphurous acid is, for the most part, safe and fairly sure.

While reliable as an antiseptic, formaldehyd causes much burning, even when used in weak solutions.

Where the seat of the disease is in sight and may be easily reached by applications, nitrate of silver proves a valuable antiseptic as well as astringent. Otherwise, owing to its rapid change, it is of doubtful antiseptic worth.

Up to this time, in the treatment of amebic dysentery, no other agent has given me as good results as quinin. I have used both the sulphate and hydrobromate, and give preference to the latter.

Owing to its easy and rapid decomposition, nothing much could be expected of such a chemical as potassium permanganate as an intestinal antiseptic.

In doses large enough to be of benefit as an antiseptic, iodoform irritates the stomach.

Lactic acid, which for a long time enjoyed a reputation in the treatment of the summer diarrhea of children, has been largely replaced by hydrochloric acid. Vaughan⁸ says, in speaking of the summer diarrhea of infancy: "The only digestive secretion which is known to have any germicidal effect is the gastric juice (hydrochloric acid); therefore, if this secretion be impaired, there is at least the possibility that the living germ will pass on to the intestine, will there multiply and will,

if it be capable of so doing, elaborate a chemical poison which may be absorbed." In conditions of the stomach where there is a deficiency of hydrochloric acid in the gastric juice, and where, in consequence, putrefactive changes in the intestine take place, hydrochloric acid is indicated; for, as the experiments of Hammarsten⁹ show, "putrefaction does not occur in the small intestine as long as the contents are strongly acid."

Whenever an eliminant and antiseptic is required at the same time, calomel is the agent to be employed. It is one of the safest and surest agents in fermentative and putrefactive conditions existing in the small intestine. Ox gall, especially when combined with calomel, is of value in fermentative conditions due to deficient flow of bile.

While we believe that too much importance has been attached to the significance of the presence of etherial sulphate in the urine as an index to the amount of proteid decomposition going on, yet we can not agree with Boas¹⁰ when he says that "the determination of etherial sulphates in the urine is of no value." If that be true, then the experiments of Nencke, Kühne, Jaffé, Baumann, Brieger, Hoppe-Seyler, Hirschler, T. R. Müller, Helden, Wesener, Winternitz, Carl Schmitt and others are of no value. For, if their conclusions prove anything, it is that when proteid decomposition in the intestine is active from any cause, etherial sulphates are increased in the urine.

I may state in conclusion:

1. Never lose sight of the patient.
2. Holt says that no matter how much we believe in drugs, if they continue to disturb the stomach they are worse than useless.
3. Care should be exercised in the selection of a proper antiseptic; it should be non-toxic and non-irritating.
4. Care should be exercised in the selection of the diet, that it be of such a character as not to favor bacterial growth.

DISCUSSION.

DR. O. T. OSBORNE, New Haven, Conn.—Emphasis should be placed on the fact that carbolic poisoning can occur from sources easily overlooked. I am a great user of salol, but when I administer it for more than a day or two at a time, and in all typhoid cases, I have the urine constantly watched, and if I find a trace of albumin the salol is stopped. There is probably no better antiseptic for the alimentary canal unless it be calomel. The treatment of typhoid with a drop of carbolic acid with the idea that this will have an effect on the intestines, I think is almost mythical. If ulceration is going on in the intestines they should be kept as clean as possible, and the diet should be such as will leave the least possible refuse. In children with diarrhea we should stop all carbohydrates and by intestinal cleanliness and judicious purgatives render the canal as antiseptic as possible.

DR. GEORGE F. BUTLER, Alma, Mich.—In every instance in which I have treated cases with acetozone the patients did better than with anything else, though in several instances I had to discontinue it temporarily on account of the accumulation of gas in the stomach, but it could be renewed later. I have noticed few upward results. In three cases there was excessive nose bleed and it occurred to me that the acetozone might have exercised some influence in producing this. In my country I have never had occasion to use quinin as an intestinal antiseptic, but in the south where there is some malaria we must take that into consideration and might have to use quinin. Irritation to the mucous membrane is a possible difficulty with the use of this drug. I prefer the benzoate of guaiacol to salol, as the former breaks up into benzoic acid and guaiacol, both of

6. Holt: Diseases of Infancy and Childhood, 1902.

7. Beaumetz: Therapeutic Gazette, vol ix, 1885.

8. Vaughan: Cellular Toxins, 1902.

9. Hammarsten: A Text-Book of Physiological Chemistry, 1902.

10. Boas: Diseases of the Intestines, 1901.

which are good antiseptics, and with it we get fairly good results without gastric disturbance. I am still inclined to think that sterilized water and the washing out of the bowel is as good as anything. The internal administration of antiseptics has not proved of special value in my hands. Taken altogether I am inclined to think that acetozone is the best of the intestinal antiseptics.

Dr. W. J. ROBINSON, New York—Most physicians think that creosote and carbolic acid act nearly alike except that creosote is somewhat milder. This is due to the fact that there is a coal tar creosote which is sometimes ignorantly or maliciously substituted, and which is for all practical purposes carbolic acid. The beechwood creosote is entirely different, and contains 75 per cent. of guaiacol and can be given in large doses, gradually increasing it up to 60 minims several times a day without any bad symptoms, while carbolic acid can not be so administered. I think this point should be emphasized; the text-books do not make this distinction sufficiently marked. I think resorcin should be entirely eliminated from our pediatric therapeutics, because in young children it produces very dangerous effects, even in small doses; it ought to be and can be replaced by safer drugs.

Dr. SOLOMON SOLIS-COHEN, New York—has not been mentioned. This seems at times to be well borne by the stomach when ichthyol disturbs, and in my experience it has been efficient in certain cases. In intestinal sepsis we do not know just what drugs are indicated because we do not as yet know precisely what organisms are at work, what chemical changes are going on, and how best to neutralize them. We can, therefore, with propriety combine a number of drugs, none in sufficiently large dosage to do harm, but each, perhaps, if not sufficient to kill certain microbes or groups of microbes, sufficient at least to limit their activity; all combined thus limiting the septic action of many groups. An illustrative combination for such purpose is guaiacol carbonate, benzonaphthol, and bismuth salicylate. At times we may produce an effect indirectly. Thus castor oil and saline irrigations exert antiseptic influence by cleansing the bowel. I am perfectly satisfied that the endeavor to restrict fermentative, putrefactive and other toxicogenic processes in the intestinal canal in typhoid fever, otherwise than by the external use of cold water, is good treatment.

Dr. B. C. KEISTER, Roanoke, Va.—A constant standby with me for some time has been sulphocarbolate of zinc combined with elixir lactopeptone or pepsin cordial. In treating intestinal indigestion, dysentery and typhoid, good results may be expected from a fair trial of this old friend.

Dr. J. A. STORCK—I have not noticed hemophilia occurring after the use of acetozone in any of my patients. I have found the hydrobromate of quinin less irritating than the sulphate. In the case of poisoning following creosote I had used Morrison's beechwood creosote, and I had every guarantee of its genuineness. I have entirely discarded the use of mercuric bichlorid and copper arsenate. I do not believe drugs of that kind ought to be used.

NOTES ON PULP TECHNIC.*

MARTHA ANDERSON, M.D.

MOLINE, ILL.

The comparative value of methods and stains used for nerve tissues in other parts of the body has never to my knowledge, been demonstrated on the pulps of teeth. Our studies for the past four years have been along this line. While this work has not been complete, yet we are able to show some results. A complete summary of this work, however, remains for the future. This line of research is to be continued. I herewith submit the results of my investigations for the past year.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

In the work of preparing pulps for the demonstration of nerve tissue the following methods of procedure have been carried out:

Fresh pulps have been hardened in a weak solution of formalin, in Müller's fluid, Ehrlich's fluid and in Weigert's chrome alum solution. The formula of the latter is as follows:

Chrome alum	2½ per cent.
Copper acetate (neutral)	5 " "
Acetic acid	5 " "
Formalin	2 to 4 " "

Dissolve the alum in the necessary water, add acetic acid, then copper acetate. Filter, and when cold add formalin.

Sections were cut by the freezing method, then stained by one of the following methods:

(A) WEIGERT'S METHOD FOR MEDULLATED NERVES.

Copper acetate neutral sat. Aq. sol. + aq. dist., aa (warm), 24 hours.

Wash.

Weigert's hematoxylin, 24 to 48 hours.

Weigert's differentiating sol., few minutes.

Wash.

Dehydrate, clear and mount in balsam.

(B) OSMIC ACID AND HEMATOXYLIN.

OsO₄, 1 per cent., ½ to 1 hour (dark).

Wash.

Pyrogallie acid, 5 per cent., 2 to 4 minutes.

Wash.

K permanganate, ¼ per cent., 3 to 4 minutes.

Wash.

Oxalic acid, 1 per cent., ½ minute.

Wash.

Counterstain in hematoxylin.

Wash, dehydrate, clear and mount.

(C) MUMMEY'S IRON AND TANNIN.

Wash sections in distilled water.

Liquor ferri perchlor., B. P., 24 hours.

Wash quickly in distilled water.

Tannic acid, gr. ii in 3iss aq., 5 to 10 minutes.

Wash, dehydrate, clear and mount.

(D) IRON AND HEMATOXYLIN.

Zenker's fluid.

Wash.

Mordant—liquor ferri chlor., 24 hours.

Wash thoroughly.

Hematoxylin, ½ to 1 per cent. aq.

Wash well.

Decolorize weak mordant till pale straw.

Wash thoroughly (or will fade).

Dehydrate, clear and mount.

(E) FREUND'S GOLD.

Wash water.

AuCl₃, 1 per cent., 3 to 5 hours (dark).

Wash.

Caustic soda, 1 to 5 or 6 water, 3 minutes.

Drain.

KI, 10 to 12 per cent., 5 to 15 minutes.

Wash, dehydrate, clear and mount.

(F) UNDERWOOD'S GOLD.

Wash in Na bicarb. sol. gr. v in 5i aq.

AuCl₃, neutralized by Na bicarb. sol. gtt. by gtt., ½ hour (dark).

Wash dist. water.

Formic acid, 1 per cent., warm and keep rather hot till crimson, ½ to 1 hour (dark).

Dist. water, cold, ½ hour.

Dry.

Mount in glycerin jelly.

Avoid Canada balsam.

(G) LEMON JUICE AND GOLD.

Lemon juice strained several times through flannel 10 to 15 minutes.

AuCl₃, 1 per cent. (dark), 1 hour.

Wash rapidly.

Formic acid 25 per cent. (dark), 24 hours.

Transfer to glycerin and mount in glycerin.

Weigert's stain for medullated nerves was used on tissues hardened in Müller's fluid, formalin and Weig-

ert's chrome alum, and good results were obtained with both Müller's and formalin hardened tissues, the medullated sheaths of the nerves taking the stain.

The osmic acid method was used similarly to the above, and gave good results following Weigert's chrome alum solution.

Mummery's iron and tannin used after Müller's fluid stained the nerve fibers, but the results were not so good as with the two previous stains. Mr. Howard Mummery, however, has been able by this stain to trace fine nerve fibers from the nerve bundles.

Iron and hematoxylin gave good results, the fibers in some places being traced to the apex of the pulp.

Of the different gold methods, Freund's has given me the best results, although some of the results of staining tissues hardened by all the methods have been good. Gold staining, on the whole, has been unsatisfactory. The staining has been unreliable. In carrying a number of sections through together by the same process some will be acted on, the stain showing a good result; others will be unaffected. The tissues that turned out well yesterday will be a failure to-day and from no apparent reason.

With certain of the nerve stains the pulp stones have taken the same stain as the nerve tissues. The osmic acid method is an exception, the stain reacting differently on the stones.

A SIMPLE METHOD OF TREATMENT OF HEMANGIOMA.

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Professor of Surgery and Surgical Pathology, Post-Graduate Medical School and Medical School of the University of Illinois.
CHICAGO.

During the last few years the treatment of hemangioma (nevus) has received considerable attention. The excision of the tumor as a whole, which has been practiced universally, has not proved a very satisfactory procedure. It is only of use when the angioma is small, so that primary union of the wound is possible. Whenever the tumor is large in area or very deep it is of very little value. Especially the treatment of angioma of the face is a difficult task, as it seldom appears as a tumor which could be removed *in toto*. Injections of hot water, lately recommended by Wyeth, if done properly and carefully, are satisfactory, and are a valuable addition to the therapy, but we have no means to limit the fluid in its action, and when once injected it will flow in the direction of the least resistance and is beyond our control. The introduction of magnesium nails (Payr) is another new and highly recommended method, but its use will be limited to small tumors.

It seems to me, therefore, advisable to publish a method which I have used a number of times, and of which I exhibited a very successful case at the November meeting of the Chicago Medical Society. The case is remarkable in many respects, but instead of describing it in detail, I shall give only a few brief notes, and from the two pictures added it can be seen how far the angioma extended and what the result of the treatment is. When three months old (Fig. 1) this child was brought to me with a very extensive hemangioma of the face (variety, hemangioma arterio-venosum). It was composed of several different growths, with small islands of normal epidermis between them, and its extent was such that some surgeons declared it inoperable. This it was certainly for the ordinary method of excision, but with

the method which I describe below, it proved curable, and even the cosmetic result is good, as Figure 2 shows.

The method consists in the general principle of transforming the masses of vessels gradually into connective tissue. Gradually means in several sittings. This is done by a subcutaneous suture. A thread of catgut is passed in a zigzag manner, first below the skin, then underneath the base of the tumor; then, again, under-

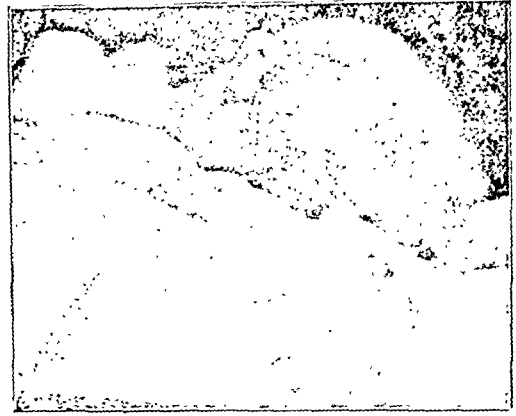


Fig. 1.—After a few sittings, showing small islands of normal skin between angiomatous growth.

neath the skin, underneath the tumor, etc., until the tumor mass is included in this continuous suture. This suture is drawn tight and closed at the point of the entrance of the needle. In this manner the circulation is shut off within the tumor, but no gangrene follows, inasmuch as some blood can yet reach the parts not in-



Fig. 2.—Photograph, four years after operation, no trace of angioma, a small nodule of connective tissue in the left nasolabial fold.

cluded in the suture. After about a week the mass of the tumor seems much smaller. The normal epidermis, however, outside of it, which had been stretched, sometimes to considerable tension, becomes soft and elastic again and grows. This procedure is repeated until the tumor has been diminished to the smallest possible nodule of

connective tissue, and the healthy skin enlarged to the utmost. Then the hard connective masses are excised and the borders united in fine linear union. If the tumor is growing in patches, as often happens, one will see the islands of normal skin enlarge within a few weeks to twice and three times their size.

This treatment applies to all varieties of hemangioma, but in the arterial and mixed varieties it is necessary to ligate the largest afferent vessels. Only in this way is one able to check the often rapid growth of these tumors.

In this way we had to proceed in the case published herein, and had to excise a portion of the common carotid artery, otherwise we should never have checked the growth of the tumor.

New Appliance.

A NEW TENT FOR THE TREATMENT OF TUBERCULOSIS.

IRVING FISHER.

Professor of Political Economy at Yale University, and Secretary of the New Haven County Anti-Tuberculosis Association.

NEW HAVEN, CONN.

VARIOUS DEVICES FOR OUTDOOR SLEEPING.

In the United States the vogue and the wonderful success of sleeping out of doors as a means of curing tuberculosis has led to a number of different devices, such as tents, sleeping balconies, etc. In Colorado and California, during the rainless months, sleeping on the ground is often practiced, in which case only a cowboy's tarpaulin, a sleeping bag or a camp mattress may be used. A more comfortable arrangement is a sleeping veranda built next to the house, so that the patient may easily step from his dressing room to his bed and back again. A simpler plan is to project the head of the bed out of the patient's bedroom window, protection from the weather being secured by canvas awnings and curtains. This method has been perfected by Dr. T. M. Bull of Naugatuck, Conn., although previously employed by Dunham.¹ It has the great advantage of being cheap and easily applied to tenement houses and flats where there is no room for any larger structure. A "shack" has been used by Dr. Millet in his sanatorium at East Bridgewater, Mass. This is a small wooden building open to the air on three sides and fitted with windows and curtains which may be closed in bad weather.

Finally, there are various types of tents. Beside the ordinary "A" tent or wall tent there are the up-draught tents of Sibley, Munson, Holmes and Gardiner. The last named is modeled after the Indian tepee, the air entering through a slit around the circular floor and being vented through a hole in the top. Of these various devices, the sleeping balcony, the Millet shack and the Gardiner tent seem to me the best.

THE PRINCIPLE OF VENTILATION.

The tent described below is an attempt to combine the advantages of these. The object is to provide pure air to the occupant under all conditions of weather, without sensible draught. The essential idea is to force a gentle current of air vertically upward through the tent. The breath of the occupant naturally rises, and is then caught in this upward draught and carried out, so that there can be no possibility of its being re-breathed.

The rapidity of change of air to effect this result need not be great. Ventilating engineers usually make a fundamental mistake in treating the problem of ventilation as though it were to add pure air to a room, whereas the principal problem is to remove the impure air. Ordinary ventilation simply dilutes this impure air instead of removing it systematically as fast as formed and preventing its return to the nose. The quantity of air passing through this tent is considerably less than what passes through an ordinary tent with horizontal air

currents; but the air breathed by the occupant is absolutely pure, instead of slightly contaminated, as it is in the ordinary tent.

DESCRIPTION OF THE AUTHOR'S TENT.

The tent floor is 10x14 feet, the walls of the tent are 8 feet high under the eaves, from which rises a pitched roof to a central cupola, which is 4x5½ feet in horizontal dimensions and three feet in height. A smaller size, capable of holding one bed only, is 9x9 feet; height, 7 feet; cupola, 3x3x2½ feet.

The tent is raised a yard above the ground. The air enters the space beneath the floor through louver-boards or "luffer-boards" or "flaps" of cloth, which are simply like clapboards hinged at the upper edges and hanging one over the other. These flaps are hung at their upper edges by cords on the inside of a wire netting surrounding the base of the tent. Thus they open inward at the slightest wind pressure, allowing every breeze to enter the space beneath the floor, but not allowing it to escape, since the pressure from the inside against the flaps closes them. The air is thus forced up through the tent. Similarly, the sides of the cupola are provided with flaps of the opposite kind; that is, they are hung on the outside of a wire netting and yield to any effort of the air to escape from the tent, but close against any wind from the outside. The effect, therefore, is to produce "wind pump ventilation," and to transform the slightest breeze into an upward current.

Free passage of air through the floor is provided by a space three inches wide between the tent floor and the walls of the tent and also by two slits two inches wide in the floor, four feet from each end. These slits, as well as the openings on the four sides, may be closed by trap doors so that the tent may be temporarily heated in the morning when the patient wishes to dress.

The length of the tent runs in an east and west direction. The entire south wall consists of curtains which roll from the bottom on Hartshorn rollers and may be put down in the day time to sun out the tent, or on hot, close summer nights when the air is absolutely still. In cold weather, even when the air is still, the curtains need not be lowered, as the difference in temperature between the breath exhaled and the surrounding atmosphere is enough to cause the exhalations to rise and pass out of the cupola openings. To provide for this there is a small space above the flaps in the cupola always open, and also above the flaps around the base of the tent.

One other device needs to be explained. This is a "regulator" under the floor of the tent and in the center. It performs two functions: the first and most important is to distribute the air evenly to all four sides of the tent; the second is to check the motion of the air when it is excessive, as in a gale. A false floor of canvas is constructed a foot below the real floor, and in the center of this false floor is an opening 5x7 feet, covered with wire netting and provided with flaps like those already referred to but hanging down from the wire netting at an angle of less than 45 degrees. Half of them, namely, those toward the east, are hung at their east edges; the other half, namely, those toward the west, are hung at their west edges. The consequence of this arrangement is that the air, passing through these flaps, is distributed half toward the east and half toward the west, so that each end of the tent is supplied with its share of air, whatever the direction from which the wind is blowing. It is found that without this distributing apparatus the air is apt to come up on the side of the tent most remote from the direction of the wind, and even in some cases to produce a revolving motion of the air in the tent, causing a down current on the windward side. With the regulator, however, this never happens.

In case of a gale the flaps in the regulator, which usually hang open, are blown shut and keep out an excessive quantity of air. The flaps at the extreme east and west are lightest and close first. The weights of the remaining flaps are graduated, so as to close successively in proportion to the severity of the wind.

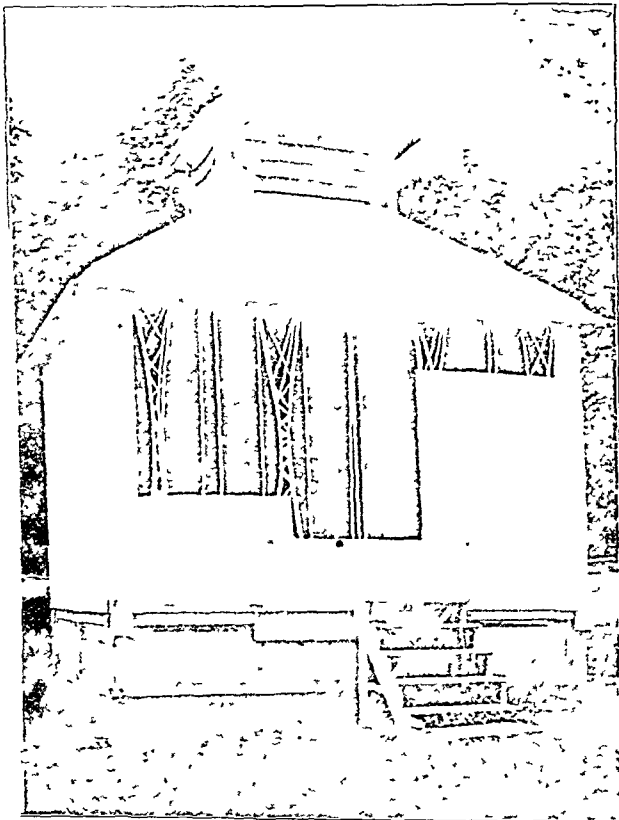
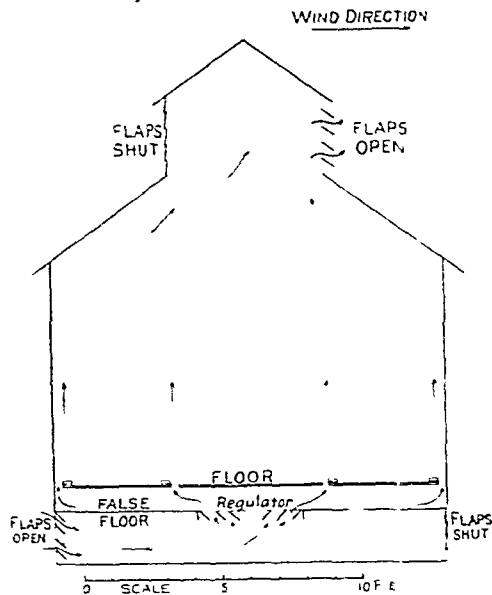
The wire netting to which these flaps are attached is surrounded by canvas screens projecting seven inches downward

1. Observations on Tuberculosis, Dr. Henry B. Dunham, American Medicine, Dec. 28, 1901.

from the false floor, so as to constitute a short shaft, as it were, thus compelling the air, before reaching the flaps, to already have a general upward direction.

The mechanism which has been described thus performs four functions:

1. The flaps surrounding the base of the tent act like in-draught fans.
- 2 Those in the cupola act like suction fans.



- 3 Those in the central opening in the false floor distribute the air evenly
- 4 The latter also check excessive draughts

The result is that the tent automatically provides pure air for its occupants, without draughts, and in all conditions of weather, with the single exception of weather which is both hot and still in which case it becomes necessary to lower the curtains.

The tent has been put to several severe tests. In one of these tests a stove was placed in the center, with the stovepipe extending only a foot above the head. It was found that the smoke thus vented into the tent itself was all carried out through the cupola without even producing any odor perceptible to those in the tent.

COMPARISON WITH THE GARDINER TENT.

The tent is simply a combination of the main features of the Gardiner tent, devised by Dr. Charles F. Gardiner of Colorado Springs,² the Millet shack, employed by Dr. Charles S. Millet at his sanatorium at East Bridgewater, near Brockton, Mass., and the movable cloth flaps frequently employed by heating engineers in cold air boxes. The combination of these three devices avoids some of the objections which apply to the Gardiner or Millet structures. Those points in which it is thought to be superior to the Gardiner tent are:

1. One side can be made entirely open in still, hot weather or in the daytime for the purpose of sunning the tent. This is important in damp climates. The Gardiner tent has been chiefly used in Colorado where there is never need of opening it up to dry it out.
2. The very slightest breeze is caught by the flaps and forced through the tent.
3. The flaps prevent automatically any possible down-draught, which sometimes occurs with the Gardiner tent when overtopped by a building or tree to the windward.
4. The regulator prevents any possible draught across the floor.

COMPARISON WITH THE MILLET SHACK.

The points in which the tent aims also to overcome objections to the Millet shack are:

1. The patient is not subjected to strong or variable winds
 2. He is not forced to sleep with the glare of the sky in his eyes
 3. There is no need of any adjustment by the patient at night in case of a storm or a change in the direction of the wind, as the tent adjusts itself automatically.
- As yet, only a few of these tents have been made. Those who have used them have been greatly benefited. Some are to be employed at the new sanatorium of the New Haven County Anti-Tuberculosis Association at Wallingford, Conn., and one will be exhibited at the meeting at Baltimore, in January, 1904, of the Tuberculosis Commission of Maryland

SOME DETAILS.

There is a double roof to prevent leaking.

The flaps in the cupola must be waterproof.

All flaps have the corners cut off obliquely, as square corners will whip and make a troublesome noise.

The flaps are tied by cords running obliquely downward. The cords must be loose enough to provide for shrinkage in damp weather, and yet tight enough to prevent the flaps from fluttering in the wind.

The false floor is made in sections easily detached and cleaned.

The cupola and the window in the false floor are lined with mosquito netting.

The curtains run between guides constructed of soft rope, so as to act as noiseless cushions. Cords from the curtains pass over pulleys at the northeast or northwest corner of the tent and thence to cleats on the east or west wall, so that the patient may operate the curtains without leaving his bed.

The curtains must be so adjusted in length that when they are pulled entirely up the Hartshorn metal rollers have the slit downward; otherwise the rain will percolate inside the rollers and injure them.

There is always an open space of one inch above the flaps in the cupola.

There is no patent on the tent. Anyone is free to construct one on the basis of the foregoing description.

² This tent is fully described by Dr. Gardiner in his pamphlet entitled "The Sanatory Tent and Its Use in the Treatment of Pulmonary Tuberculosis" (Reprinted from Transactions of the American Climatological Assn., London, 1902, John Bale, Sons & Danielson, Ltd)

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The large amount of space occupied by the index in this issue compels us to omit several departments and to curtail others.

A WORD AS TO THE INDEX.

This issue completes Volume XLI of THE JOURNAL and contains the index. Since this index is peculiar to this journal, requires an immense amount of work and expense in its preparation and production, and is, we believe, of great value to those who desire a ready reference to medical literature, we again call special attention to it. We do so because we are afraid that few of our readers realize that this is anything more than "just an index"; consequently its value is limited.

The index is in two parts; the first running to page 1603. This is simply the ordinary index to the contents of THE JOURNAL itself, such as usually accompanies other journals, except that, we believe, ours is fuller and more complete. The second part of the index, commencing on page 1604, is that which is unique to our journal and to which we wish to call attention. As our readers know, we give each week the titles of original articles which appear in the leading medical journals of this and other countries. The index to the "Current Medical Literature" is an index to these articles. In other words, it is an index to the important literature of the world for the six months covered. To those who desire to look up any subject it is therefore invaluable.

The important articles are abstracted, but if these are not full enough, or if the article is not abstracted, the original article can nearly always be had by writing to the publisher, if in this country, or by referring to some of the leading libraries if it is a foreign journal.

A matter of minor importance to the possessor of a bound volume of THE JOURNAL but of great moment to him who has his journals loose, is the awkwardness and the annoyance of turning to the copy and to the page to find the titles. To do away with this, we issue, at the nominal price of fifty cents, a reprint of this index to which is added all the titles above referred to taken from THE JOURNAL week by week. Thus is provided in a compact and convenient form a reference to the literature contained in the leading medical journals of the world.

THE DETERMINATION OF SEX.

Many theories of the possible determination of sex in the lower animals have been broached in the last quarter

of the century. At times it has seemed that influences could be brought to bear on the fertilized ovum that would artificially determine its sex, or at least so influence a number of ova that the majority of the offspring would be of one sex rather than the other. Prof. Thomas Hunt Morgan,¹ the director of the biologic department of Bryn Mawr College, and very well known for scientific work of a high order in embryology, and in the subject of regeneration, has made a review of all the recent investigations with regard to the determination of sex, and concludes that so far nothing definite has been discovered, and that very probably the sex of the embryo is in most cases determined in the ovum or during the process of fertilization, after which no subsequent influences can change this determination.

There have been apparently good reasons for thinking that in some cases sex might be determined after the fertilization of the ovum. Statistics of population seem to show that after long and severe wars in which many men are killed and the male part of a country's population is greatly decreased, there is for several years a preponderating birth of male children until the normal proportion between the sexes is restored. This seems to have been noted after the Thirty Years War in Germany, after the Napoleonic wars in France, and even in more recent times, after the Siege of Paris. It was thought that the increase of male births supposed to be noticed after such times of calamity, was due to the fact that the female population suffered hardships and that such a condition of hardship had a biologic effect in the production of males rather than of females. This theory seemed to be borne out some twenty years ago by experiments on frogs. The feeding of tadpoles very abundantly was reported to lead to an over-production of females, while the starving of tadpoles led to the production of males. Unfortunately, subsequent observation showed that this investigation was incomplete. As a rule, in any brood of tadpoles a great majority of them will turn out to be of one sex or the other. There is not the equal division of sexes that might be expected. Accordingly, the supposed conditions of the experiment are quite different from what the original investigator considered them to be.

Cuenot, who has perhaps done the best original work on this subject of the possible determination of sex, says that "the classic examples of insects and frogs, in which it was supposed that external conditions acting on the later embryo determined the sex, have been shown to be capable of a different interpretation. It has especially been made clear that a meager or an abundant supply of food has no influence on the determination of the sex of the embryo." It is the egg, in his opinion, and not the spermatozoon that determines the sex of the individual. This is true beyond all doubt in many insects, in pigeons, and in certain of the lower animals. In some animals, as the rotifera and in the social hymenoptera, the

1. Popular Science Monthly, December.

spermatozoon appears, however, to have a determining influence.

As a general conclusion Professor Morgan considers that it may be a futile attempt to try to discover any one influence that has a deciding influence for all kinds of eggs. "Here, as elsewhere in organic nature, different stimuli may determine indifferent species which of the possibilities that exist shall become realized." In a word, instead of a simple, it is a very complex problem, and all our supposed knowledge on the subject fails to stand the rigid test of scientific examination by the trained, modern biologists, whose wider knowledge of the lower animals has enabled them to recognize sources of error in previously suggested solutions of this attractive but inscrutable mystery.

Medical News.

CONNECTICUT.

November Infectious Diseases.—During November one case of smallpox was reported; 643 cases of measles, with 2 deaths; 132 cases of scarlet fever, with one death; 182 cases of diphtheria, with 4 deaths; 86 cases of whooping cough, with one death; 79 cases of typhoid fever, with one death, and 29 cases of consumption, with 20 deaths.

National Guard Changes Suggested.—At an informal meeting of the surgeons of the Connecticut National Guard, New Haven, December 9, it was decided to recommend to the military authorities that a medical department independent of the regimental medical officers be formed, that an additional surgeon be added to each regiment, and that the hospital corps consist of ten men to a regiment.

November Deaths.—During November 1,167 deaths were reported, 43 more than in the previous month, 84 more than in November, 1902, and 109 more than the average for the last ten Novembers. The death-rate was equivalent to an annual mortality of 15.1 per 1,000 for the large towns, 14.2 per 1,000 for the small towns, or 14.9 per 1,000 for the entire state. Deaths from infectious diseases were 236, or 20.2 per cent. of the total mortality.

ILLINOIS.

Student Dies.—Miss Caroline Beardsley, Highland Park, a student in the medical department of the University of Illinois, died suddenly from kidney disease, December 14.

New Buildings.—The building committee of the county board has decided to erect at Dunning a cottage for working patients and a new morgue and pathologic laboratory; and at the Cook County Hospital a children's building.

Appointments.—The Board of County Commissioners of Cook County has approved the appointment of Dr. Charles Whalen to the County Hospital, and the reappointment of Dr. Vaclav H. Podstata, as superintendent of the Cook County Institutions, Dunning, and of Dr. Warren H. Hunter as county physician.

Personal.—Dr. William J. Cheaney, Petersburg, has been appointed county physician of Menard County.—Dr. John T. Miller, Decatur, has been re-elected county physician of Macon County.—Dr. G. W. Rohr, Rockford, will be the guest of honor at the annual banquet of the Winnebago County Medical Society in February next.—Dr. Herman J. Huyett, Milan, is the dean of the profession of Rock Island County.—Dr. Frank B. Lucas, Peoria, has been elected county physician of Peoria County.

KENTUCKY.

District Physicians Elected.—Drs. Palmer G. Keeney, Edwin Wendt and Oscar A. Frickman have been elected district physicians of Newport.

Diphtheria and Smallpox.—Cave City reports 10 or 15 cases of smallpox, and at Richmond the public and private schools have been closed on account of the disease.—Diphtheria is said to be raging in Bellville, near Owensboro, and in the southern portion of Bracken County.

College Hospital Must Pay Taxes.—As a result of the decision by Judge Miller of the Jefferson Circuit Court, the hospital of the Kentucky School of Medicine must pay taxes. It

was the contention of the college authorities that the hospital should be exempt because of the large number of charity patients cared for annually.

NEW YORK.

Smallpox.—The state health department reports on December 16 that smallpox was present at 12 places not noted in the report of December 5, when a list of 33 localities was published, in which smallpox existed.

Steel Company to Erect Hospital.—The Lackawanna Steel Company is about to erect in connection with the steel plant at Stony Point, a suburb of Buffalo, a hospital for the treatment of the maimed and wounded in their employ.

Dr. Chapin Sentenced.—On November 24, Dr. Henry W. Chapin, Findley Lake, convicted of having caused death by a criminal operation, was sentenced to imprisonment for a term of not less than one year, nor more than three years in the state penitentiary at Auburn.

Buffalo Deaths.—The monthly report of the department of health for November shows an annual death rate of 12 per 1,000. The principal causes of death were as follows: Consumption, 36; diphtheria, 11; typhoid fever, 8; debility, 28; alcoholism, 10; cancer, 22; apoplexy, 19; meningitis, 9; endocarditis, 7; vulvular heart disease, 25; pneumonia, 41; appendicitis, 6; cirrhosis of the liver, 6; gastritis, 8; gastroenteritis, 8; diabetes, 3; nephritis, 23; uremia, 5, and violence, 41. The total deaths for November were 438, as compared to 396 for November, 1902.

New York City.

Pneumonia and Tuberculosis.—The vital statistics for the year show 9,260 deaths from pneumonia, 13 per cent. of the total mortality, and 7,570 deaths from tuberculosis.

Alcohol and Opium Inebriety.—Dr. T. D. Crothers of Hartford, Conn., will deliver a course of four lectures on "Inebriety from Alcohol, Opium and Other Narcotics," at the New York School of Clinical Medicine, Jan. 5 and 6, 1904, to which the public is invited.

Gifts and Bequests.—President Abraham Abraham of the Jewish Hospital announced at a recent meeting that he had received a donation of \$25,000 from an individual too modest to give his name, dependent on the raising of a similar sum within a year.—By the will of the late James Gracie, \$5,000 is devised to the Orthopedic Hospital of Manhattan for the endowment of a bed, and \$25,000 for the general endowment fund.

SOUTH DAKOTA.

Optician, Not Physician.—H. S. Fish, an optician of Sioux Falls, who was recently arrested on the charge of practicing medicine without a license, was discharged without trial, as it was shown that he had not violated the medical practice act.

Diphtheria.—The diphtheria epidemic at Parker is subsiding. Fourteen cases occurred, with three deaths. The quarantine against the city has been raised.—Diphtheria has appeared among the Indian children at the reservation day school at Ironwood Creek, Rosebud Agency, and the school has been closed.

Medical Society Elections.—The Watertown District Medical Society held its annual meeting in Watertown, December 8, and elected the following officers: President, Dr. Edwin T. Ramsey, Clark; vice-president, Dr. Oscar G. Frink, South Shore; secretary-treasurer, Dr. James B. Vaughan, Castlewood, and censors, Drs. Hans M. Finnerud, Henry H. Clark and Robert F. Campbell, all of Watertown. The next meeting will be held Feb. 9, 1904.—Mitchell District Medical Society met at Chamberlain, December 3, and elected the following officers: President, Dr. Wellington J. Mayhim; vice-president, Dr. Frederick Treon, Chamberlain; secretary, Dr. E. Frank Reamer, Mitchell; treasurer, Dr. William R. Ball, Mitchell; censor for the year, Dr. Thomas B. Smiley, Mount Vernon, and delegate to the state society, Dr. Roscoe H. Goodrich, Chamberlain.

TENNESSEE.

Banquet to Dr. Hill.—The Chattanooga Medical Association gave a banquet, November 6, in honor of Dr. T. S. Hill of Montgomery, Ala.

Smallpox.—Four new cases are reported in one family living near Mickle's Mill, Knox County.—Franklin reports 2 cases and has quarantine regulations in force.—Knox County has 15 cases under treatment at the isolation hospital.—From June 27 to the end of November there were 1,839 cases in the state, with 36 deaths. Hamilton County had 783 cases, and Knox County 186 cases.

Elections.—Henderson County Medical Society met at Lexington, December 1, elected Dr. James C. Stinson, Center Point, president; Dr. Daniel W. Bradfield, Poplar Spring, second vice-president, and James M. Arnold, Lexington, treasurer, and re-elected Dr. John H. Howard, Lexington, first vice-president; Dr. C. H. Johnston, Lexington, secretary, and Drs. John R. Muse, John L. Murray and R. H. Davidson, all of Lexington, censors.—At its December meeting the Jefferson County Medical Society elected the following officers: President, Dr. Isaac McC. Tittsworth, Jefferson City, president; Dr. Samuel W. Fain, Dandridge, vice-president; Dr. B. F. Brown, Mount Horeb, secretary, and Dr. Payne A. Tinsley, Dandridge, treasurer.

GENERAL.

Congress of Arts and Science of the St. Louis Exposition.—The following medical men of Europe have accepted an invitation to attend and take part in the above congress: T. Clifford Allbutt, Cambridge (internal medicine); Professor Richelot, Paris (gynecology); Sir Felix Semon, London (otology and laryngology); Sir Lauder Brunton, London (therapeutics); Major F. W. Ross, Liverpool (tropical medicine); Professor Theodor Escherisch, Vienna (pediatrics).

FOREIGN.

Celebration of the Decennial of the Roentgen Rays.—The tenth anniversary of the discovery of the Röntgen rays will be celebrated next spring at Berlin by a special Röntgen congress and exhibition, at which Röntgen will be the guest of honor. Further particulars may be learned by application to Dr. Immelmann, Lützowstr, 72 Berlin, W. Germany.

LONDON LETTER.

The Health of Bombay.

The annual report of the executive health officer for the year 1902 contains much information of interest. The statistics are based on the census return of 1901. The birth rate was 22.67 per 1,000 against 17.42 during 1901. The mortality from plague began its seasonal rise in January and reached its maximum on April 3 and then declined. There was a decrease in the number of deaths from plague in all communities except Europeans and negro Africans. From August the plague mortality rose gradually to the end of the year. The government has, after careful consideration, done away with the compulsory measures and introduced voluntary ones directing the health department to follow a persuasive policy. Inoculation is not in favor, the people of Bombay have lost all faith in its protective effects. During the year 288 deaths from smallpox occurred, as compared with 159 in 1901. The increase is accounted for by the number of unvaccinated people who went to Bombay from the Portuguese territory, and soon after arrival were found to be suffering from the disease. Four thousand, five hundred and eighteen deaths were due to fevers; the highest number, viz., 3,847, is attributed to remittent fever. This is 3,419 less than in the previous year and 1,938 less than the average of the preceding 5 years. To typhoid fever 89 deaths were ascribed, being 27 more than during the previous year and 42 more than the average of the last 5 years; 483 deaths were due to ague, and 190 more than the average of the last 5 years. The mortality from fever rose and fell with the mortality from plague. The divisional health officers instructed their staffs in the methods of distinguishing the various mosquitoes and larvæ and a list of places was made out where anopheles larvæ were found. The *Anopheles culicifacies* and *Alopes Listoni* are said to be the only malaria-bearing mosquitoes known in Bombay at present. Advice is being given as to the best-known means of preventing the breeding of anopheles.

PARIS LETTER.

Congress of School Hygiene.

A congress was held in Paris, November 1, through the efforts of physicians and families, who are desirous of ameliorating the conditions of school life, and changing some of the methods followed in the interests of school hygiene. Dr. Legendre, who is deeply interested in all such questions, described the characteristics that a school physician should possess. It should be noted that every large school in France has a physician of its own, and Legendre would like to see the rôle of the latter made more important; he said the construction of a school should not be undertaken until a medical man has been consulted. Special rooms should be reserved for contagious diseases. All such diseases that are of parasitic origin, adenoids, eye or ear troubles, scoliosis, dental decay,

various nervous diseases should be inquired into by the physician. A large number of cases of deficient intellectual development are due to ill health. The hours of study and recreation should be inquired into also.

Correspondence.

A New Operation for Retrodisplacements.

COLUMBUS, OHIO, Dec. 15, 1903.

To the Editor:—In a recent issue of THE JOURNAL you publish a brief abstract of a paper by Alexandroff describing "A new operation for retroflexion or retroversion." The operation is one which I have been doing for the past eight years, and which I have described or referred to during discussions in the Section on Obstetrics and Diseases of Women, first at the meeting at Philadelphia, again at Denver, and again at New Orleans. I have no doubt the work of Alexandroff is entirely independent of mine, at the same time I do not believe there can be any question as to the priority of the operation.

328 E. State Street.

F. F. LAWRENCE.

Deaths.

Edward Fridenberg, M.D. College of Physicians and Surgeons, New York, 1878, a member of the American Medical Association; New York State Medical Association; American Laryngological, Rhinological and Otological Society; American Otological Society; New York Academy of Medicine; New York County Medical Society, New York Ophthalmological Society and New York Otological Society; ophthalmologic and aural surgeon to the German Hospital, president of the Harlem Medical Society, died from apoplexy at his residence in New York City, December 9, aged 48.

Israel B. Washburn, M.D. Rush Medical College, Chicago, 1861, of Rensselaer, Ind., one of the most prominent physicians of Northern Indiana, a member of the American Medical Association, Kankakee Valley Medical Society, a surgeon in the Civil War, and in 1872 a member of the state legislature, died at Valparaiso, Ind., from malignant disease of the liver, after a surgical operation, December 11, aged 65.

Hugh Burford, M.D. Savannah (Ga.) Medical College, 1879, a member of the American Medical Association, and the Medical Association of Georgia, acting assistant surgeon U. S. P. H. and M.-H. Service; surgeon for the Southern Railway, and member of the Association of Southern Railway Surgeons, died at his home in Brunswick, Ga., December 7.

Alfred H. Brundage, M.D. Albany (N. Y.) Medical College, 1856, a member of the American Medical Association, surgeon of the Thirty-second Ohio Volunteer Infantry in the Civil War, died at his home in Xenia, December 10, from uremia, after a short illness, aged 68.

Lewis A. Frost, M.D. Detroit Medical College, 1875, from 1881 to 1895, assistant physician at the Illinois Central Hospital for the Insane, Jacksonville, Ill., died at his home in that city, December 14, from paralysis, after an invalidism of five years, aged 61.

Elisha Hall Bridges, M.D. Bellevue Hospital Medical College, New York, 1866, for many years president of the St. Lawrence County Medical Society, died at his home in Ogdensburg, N. Y., October 9, from acute Bright's disease, aged 62.

Edward F. C. Rembe, M.D. St. Louis College of Physicians and Surgeons, 1891, of Lincoln, Ill., died at the Deaconess' Hospital in that city, December 14, after an illness of three weeks, from septicemia, aged 49.

Albert Moser, M.D. Harvard University Medical School, Boston, 1899, who served throughout the Spanish-American War in China and the Philippines, died at his home in Lima, December 9, aged 33.

Wilfred Stedman Fisher, M.D. University of Michigan, Ann Arbor, 1903, house surgeon at the University Hospital, Ann Arbor, died November 30 at Ann Arbor, from typhoid fever, aged 26.

Timothy O'Connor, M.D. College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1890, of Maple Lake, Minn., died in Denver, from consumption, December 11, aged 45.

T. M. Gwin, M.D., assistant surgeon in the Confederate service during the Civil War, died at his home in Blacksburg, S. C., from dropsy, December 9, after a long illness, aged 64.

James L. Patty, M.D. Louisville Medical College, 1872, of Bigbee Valley, Miss., was found dead in his buggy, near Brooks-ville, Miss., December 12. Death was due to apoplexy.

Watkins W. Griffiths, M.D. University of Vermont, Burlington, 1895, of Hillsborough Bridge, N. H., died recently at the Margaret Pillsbury Hospital, Concord, N. H., aged 35.

Josiah W. Willis, M.D. Homeopathic Medical College of Missouri, St. Louis, 1875, died at his home in Galesburg, Ill., December 14, from paralysis, after a short illness, aged 68.

Earl Evans, M.D. Berkshire Medical College, Pittsfield, Mass., 1856, a member of the American Medical Association, died at his home in Winchester, N. H., November 28.

Henry P. Peebles, M.D. Miami Medical College, Cincinnati, 1873, formerly of New Castle, Pa., died at Chihuahua, Mexico, November 30, after a long illness, aged 51.

George A. Hollister, M.D. Ohio Medical University, Columbus, 1895, of Toledo, Ohio, died at Bellevue, Ohio, December 9, from general paresis, after a long illness.

George Horine, M.D. Kentucky School of Medicine, Louisville, 1879, died at his home in Americus, Ga., December 8, after a long illness from lung disease, aged 47.

George Horace Brown, M.D. University of Vermont, Burlington, 1882, died suddenly at his home in Gilmanton, N. H., December 5, from apoplexy, aged 50.

A. L. Kline, M.D. Louisville Medical College, 1874, died at his home in West Enterprise, Miss., December 12, after an illness of several months, aged 57.

Hugh P. Whiteside, M.D. Kentucky School of Medicine, Louisville, 1875, of Pe Ell, Wash., died recently from typhoid fever at the Centralia Hospital.

Cornelius M. O'Leary, M.D. New York University, of New York City, 1864, was killed by a motor train in Brooklyn, December 12, aged 64.

Charles B. Ridley, M.D. New Orleans School of Medicine, 1868, died at his home in La Grange, Ga., December 14, after a prolonged illness.

Sophronia Nichols, M.D. Boston University School of Medicine, 1874, died in Barona, Cal., after a long illness, November 12, aged 68.

Henry James Ward, M.D., of Coaling, Tuscaloosa County, Ala., died in Birmingham, Ala., December 13, from paralysis, aged 61.

John Taliaferro Jones, M.D., of Charlottesville, Va., died at his home in that city, December 10, after a brief illness, aged 78.

Samuel M. C. Hawthorne, M.D. Medical College of Alabama, Mobile, 1889, died at his home in Pineapple, Ala., December 9.

Fred J. Rothacher, M.D. Detroit College of Medicine, 1902, died suddenly in his office at Detroit, December 8, aged 36.

Edward A. Everitt, M.D. Albany (N. Y.) Medical College, 1856, died recently at his home in Burlington, Pa., aged 72.

Alvin G. Thomas, M.D. Atlanta Medical College, 1858, died at his home in West End, Atlanta, December 14, aged 70.

Otto Fuls, M.D. Miami Medical College, Cincinnati, 1870, died at his home in Cumminsville, Cincinnati, December 10.

Charles E. Stewart, M.D. Hahnemann Medical College, Chicago, 1878, died recently at his home in Streator, Ill.

N. B. Ridgway, M.D. Starling Medical College, Columbus, 1870, died at his home in Galion, Ohio, December 12.

Frank W. Burlingame, M.D. Homeopathic Hospital College, Cleveland, 1882, of McKeesport, Pa., died recently.

J. A. Williamson, M.D. Vanderbilt University, Nashville, 1884, died recently at his home in Newark, Ark.

Lincoln C. Sappington, M.D., died from hemorrhage at his home in St. Louis, December 14, aged 46.

Carlton D. Ashley, M.D., died at his home in Cleveland, Ohio, December 9, aged 81.

Medical Organization.

Indiana.

GENERAL REPORT.—Dr. Paul J. Barcus, Crawfordsville, councillor for the Ninth District, reports that all of the counties in his district have been reorganized and have adopted the new constitution and by-laws. Each of the societies has an increased membership, some having increased more than 100 per

cent. during 1903. He says that he has visited nearly all of the societies, and that while some are not doing much at present, "there is a splendid prospect for a general revival of interest in all the counties of this district."

Maryland.

GENERAL REPORT.—Dr. Henry O. Reik, Baltimore, reports that the work of reorganization in Maryland is progressing steadily and satisfactorily; that twelve county societies have been organized during the past month. Since there are only twenty-four counties in Maryland, this report is very encouraging.

GARRETT COUNTY MEDICAL SOCIETY.—The physicians of Garrett County organized at Oakland, December 10, with the following officers: President, Dr. William H. Ravenscroft; vice-president, Dr. Henry W. McComas; secretary and treasurer, Dr. John E. Legge, all of Oakland, and censors, Drs. Mahlon C. Hinebaugh, Oakland, W. G. Drinkwater and H. R. Boyer.

DORCHESTER COUNTY MEDICAL SOCIETY.—The physicians of Dorchester County, Eastern Shore, organized a society at Cambridge, December 5, with the following officers: Dr. Benjamin L. Smith, Madison, president; Dr. Thomas H. Williams, Cambridge, vice-president; Dr. Guy Steele, Cambridge, secretary; Dr. John Mace, Cambridge, treasurer, and Drs. Robert J. Price, Vienna, Sidney A. Stokes, Cornersville, and Eldridge E. Wolff, Cambridge, censors.

North Carolina.

JACKSON COUNTY MEDICAL SOCIETY.—On November 18 the physicians of the county met at Dillsboro and organized on the standard plan with all the licensed physicians as charter members. Dr. J. M. Candler, Dillsboro, was elected president, and Dr. George P. Edwards, Sylva, secretary. A charter has been granted by the Medical Society of the State of North Carolina.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Injection in Syphilis.

The following combination is recommended by Anthony in the treatment of syphilis:

R. Hydrarg. biniodidi	gr. iss	09
Potass. iodidi	gr. ix	60
Sodii phos.	gr. xv	1
Aquæ destil.	℥ii	60
Sol. sodii chloridi (decinormal)	℥ii	60

M. Sig.: Sixteen drops by hypodermic injection once daily.

Caffein Hypodermically.

Caffein, according to *Merck's Archives*, is not suitable, as a rule, for hypodermic injection owing to its comparative insolubility—being soluble in not less than eighty parts of water. Its solubility is greatly increased by the addition of equal parts of sodium benzoate or sodium salicylate or perhaps antipyrin. The following combinations are consequently suitable for hypodermic use:

R. Caffeina		
Sodium salicylatis, aa	℥i	4
Aquæ destil.	℥iii	8
M. Sig.: Five to ten drops hypodermically; or:		
R. Caffeina	℥iii	12
Sodii benzoatis	℥ii	8
Aquæ destil.	℥v	20
M. Sig.: Five to ten drops hypodermically.		

Caffein in Alcoholic Toxemia.

Caffein is of value as a diuretic and in cases of venous congestion; it refreshes and stimulates the nervous system and is a vasomotor tonic. It is of great use in attacks of dyspnea caused by sclerosis of the coronary arteries, governing to some

extent the caliber of the blood vessels and so sustains the circulation. It increases the loss of carbon by the organism and does not restrain the loss of nitrogen. Caffein seems to take the place of alcohol and to quench the desire for it.

It is, therefore, of service, according to A. J. Hall in *Med. News*, in the treatment of alcoholic toxemia because it increases the kidney secretion, corrects the insomnia, corrects the defective circulation, stimulates the heart and promotes the elimination of the toxins.

Medicolegal.

Expert Evidence with Regard to Time of Death.—The Supreme Court of Utah holds, in the murder case of State vs. Mortensen, that there was no error in admitting the testimony of a physician relating to the probable length of time which intervened from the time the deceased had eaten his supper until his death, as indicated by the appearance of the contents of the stomach and the stage of digestion, the witness, as an expert, having made an examination of the stomach of the deceased.

Damages for Fracture of the Coccyx and a Sprain.—The United States District Court holds, in the case of the City of Portsmouth, a disembarking passenger having sprained her ankle and fractured the coccyx by falling between the boat and dock, that an award of \$4,000 damages was only reasonable and would be allowed, medical experts having testified that the injuries sustained were all permanent in character, and that from same she would suffer all of her life, their tendency being to make her an invalid and a nervous wreck.

Physical Examinations in Oklahoma.—The Supreme Court of Oklahoma holds, in *City of Kingfisher vs. Altizer*, that the courts of that territory can not order a party bringing an action for an injury to the person to submit to a surgical examination in advance of or during the trial of the cause. It says that one may expose his body, if he chooses, with due regard to decency, and with the permission of the court; but he can not be compelled to do so in a civil action without his consent. Where a person unreasonably refuses to show his injuries when requested to do so, that fact may be considered by the jury as bearing on his good faith, as in any other case of a party declining to produce the best evidence in his power and under his control.

Furnishing of Medical Treatment by Employers.—The Court of Civil Appeals of Texas says, in *Galveston, Harrisburg & San Antonio Railway Company vs. Hennigan*, that while, independent of a contract, no duty rests on a master to furnish his servants with medical and surgical treatment, yet, if he undertakes to furnish such treatment, the law imposes on him the duty to use reasonable care in engaging the services of a competent and skillful physician and surgeon for that purpose. And if, through his failure so to do, the physician employed is incompetent and unskillful, and through such incompetency, etc., in the treatment of the servant injures him, the law holds the master responsible for his failure to discharge the aforesaid legal duty. Such liability is independent of any duty arising from a contract.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

December 12.

- 1 *The Function of Maternal Milk in Developing the Stomach; a Factor Hitherto Overlooked in Artificial Infant Feeding. Henry Dwight Chapin.
- 2 *Cyclical Albuminuria. Arthur R. Elliott.
- 3 *Muscle Tonus and Tendon Phenomena. Joseph Fraenkel and Joseph Collins.
- 4 A Rare Case of Patent Diverticulum Ile. August A. Strasser.
- 5 *The Treatment of Cancer by Caustic Paste. Charles W. Allen.

1. **Maternal Milk.**—Chapin reviews the comparative anatomy of the stomach and shows that infants and their mothers are adapted to each other functionally as well as anatomically.

Cow's milk is what we have to use where mother's milk fails. As the proteid does not fit the baby's stomach it must be altered in some way or other. In the cow, digestion is principally gastric and food slowly leaves the stomach. Cow's milk curdles in large masses that can not readily pass onward, while human milk does not form solid curds. An alteration of this character of cow's milk may be brought about by various methods, one succeeding where another fails. He makes use of the alkalies, the dilution of cow's milk with the plain gruels and dextrinized gruels and points out that no one rule, but only a perfect adaptation to the condition of the individual infant can be followed. Experience and study will enable the infant feeder to do what nature does automatically.

2. **Cyclical Albuminuria.**—Elliott considers this anomaly an evidence of defective glomerular condition, a few leaky glomerules as yet imperfectly repaired, after some localized glomerulitis, permitting under the high interglomerular blood-pressure of the upright position the passage of albumin into the urine. Every cyclical albuminuria must be looked on as simply a phase or a mild degree of true nephritis which has preceded it. This may have been latent and escaped detection. The view does not necessarily imply a serious prognosis. The disease is not active and progressing, but tends to disappearance under proper care.

3. **Muscle Tonus and Tendon Phenomena.**—The conclusions of Fraenkel and Collins' studies are: 1. That disease of the posterior columns causes hypotonia and decrease of reflexes, and that the tendon phenomena are absent or diminished unless additional disease of the descending tracts counterbalance this influence. (Return of knee-jerks in cases of tabes after hemiplegic attacks.) 2. That disease of the pyramidal tracts causes hypertonia and increase of reflexes, including the tendon jerks unless additional disease of the ascending tracts, anterior horns or peripheral neurons, neutralizes this influence. 3. Histologic hypertonia and hypotonia modify the above-stated relations to a slight degree when the disease has not advanced to its full clinical representation. 4. There is a large group of more or less normotonic registrations found in their lists with approximately normal behavior of the tendon phenomena. 5. There is also a smaller group with more or less marked hypotonic registrations, the tendon phenomena being mostly diminished, not easily elicited, and the muscular contraction is sluggish and vermicular and quickly exhausted. This is not influenced by a well-executed reinforcement.

5. **Cancer.**—Allen objects to the statement by Campbell White that the caustic treatment of cancer has been rejected except by charlatans. He thinks Dr. White would not mean to class him among charlatans, though he still uses this method. In looking over his records he finds that the final results of the caustic treatment and of the x-ray are almost identical.

American Medicine, Philadelphia.

December 12.

- 6 *The Relative Importance to the Community of Pneumonia and Tuberculosis. Arnold C. Klebs.
- 7 *Address on Hernia. John B. Deaver.
- 8 *Amputations. Thomas H. Manley.
- 9 Amyotrophic Lateral Sclerosis. Alexander McPhedran.
- 10 *Infections of the Knee-joint. I. R. Trimble.
- 11 *Care of the Uterine Cervix. H. Wellington Yates.
- 12 The Brain of Children and Some Suggestions from the Standpoint of the Physician as to How It Should Be Regarded by the Teacher. Henry L. Swain.

6. **Pneumonia and Tuberculosis.**—Klebs' paper (which has been published in the *Illinois Medical Journal*, December, page 486) ends with the following conclusions:

1. The relative economic importance of pneumonia and tuberculosis can not be estimated by a mere comparison of total mortality figures for each disease.
2. The apparently high mortality figure and its increase of late, for pneumonia is produced by the enormous death rate and its increase attributed to this disease, in early childhood.
3. Therefore, the high mortality from pneumonia and to a certain extent its increase is due to a classification of different ill-defined pathologic conditions under one name, while that from tuberculosis represents that of a well-defined morbid entity.
4. For this reason and on account of the relative shortness of disabling sickness and frequent recovery in pneumonia, the great length of disabling sickness and infrequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different, that a comparison on economic grounds reveals the overpowering danger from tuberculosis.

5. The steady decrease of the tuberculosis death rate can be explained on the grounds of increasing improvement of hygienic conditions in late years and as the result of specific prophylactic measures.

6. The increase of the pneumonia death rate occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features.

7. Therefore, and in view of the still enormous mortality from tuberculosis, its demonstrated preventability and the possibility of its arrest only in its earliest stages, the institution of educational measures in regard to personal and public hygiene widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated.

8. Since for pneumonia, as pointed out by E. F. Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand" this subject needs further investigation from a bacteriologic and epidemiologic standpoint as well, before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public, which in view of the facts given are out of all proportion.

7. Hernia.—Deaver's article is a general review, pointing out the methods he employs under various conditions.

8. Amputations.—Manley insists on the modern tendency to conservatism in amputations.

10. Knee-Joint Infections.—The points emphasized by Trimble are the need of careful diagnosis in every case of inflammation in or about the joint, and, when purulent inflammation is present, the early opening of the joint and means taken to prevent the formation of pockets of pus.

11. Care of the Uterine Cervix.—Yates insists on the importance of thorough excision of scars in trachelorrhaphy, not the mere denuding of the surfaces and suturing, but the complete removal of foreign tissues. We should be careful in ascribing symptoms to cervical laceration, for not all the reflex symptoms that occur can be properly so referred.

Medical News, New York.

December 12.

13 *The Home in Its Relation to the Tuberculosis Problem. William Osler.

14 *Syphilis and Divorce. Prince A. Morrow.

15 *Some Practical Suggestions on Physical Education in the Public Schools. Richard C. Newton.

16 *Report of Cases with Exhibition of Specimens Diagnosed by the Cystoscope. John R. Wathen.

17 *Hysteria. William B. Young.

18 *Enlarged Bronchial Glands. J. R. Clemens.

19 *A Humble Sterilizer. Douglas H. Stewart.

13.—See editorial last week.

14. Syphilis and Divorce.—Morrow gives a digest of the legal status of syphilis and divorce, and advises that under the present conditions of law, syphilis should never be invoked as the cause of action, unless it constitutes the chief or only phase of cruelty that can be alleged. The proceedings had better by far be based on charges of infidelity if they can be sustained. The inconveniences to the applicant to prove the facts for divorce are very serious and should be avoided if possible. Still there are many cases of marital infection of such aggravating character that it may be the only resource. There are so many loopholes of escape for the guilty party from the interpretation of what constitutes "willful and knowing" communication, and so many extenuating circumstances that may be pleaded, that the existing laws are not adequate. He would advise the physician not to appear in the interest of the patient, but let the proof of the communication of the disease be furnished by a medical expert appointed by the court, and especially, he says, should the attending physician avoid giving a letter or certificate as to the existence of syphilis in the plaintiff and his treatment of it. Certificates of this character are looked on with suspicion and may be rejected by the courts.

15. Physical Education in Public Schools.—Newton advocates dispensing with the teachers of superfluous and ornamental branches if necessary, using the money thus saved for hiring necessary medical inspectors and the obtaining of proper facilities, etc., for physical education. The evils of forcing children in schools in an ignorant way are hardly less, he thinks, than those of child labor.

16. Cystoscopic Examinations.—Five cases are reported to illustrate the necessity of cystoscopic examination, showing the morbid disease, calculus, foreign bodies, etc., in the bladder. Wathen insists on the importance of more thorough and accurate methods of diagnosis in this field.

17. Hysteria.—Young considers hysteria a psychosis due largely to the unconscious impressions of infancy and childhood in neurotic subjects. The pathology, he thinks, will be located in the adrenal system, and the treatment should be psychic. Suitable resorts should be erected for the poor. With such methods he believes hysteria would be on the decrease instead of on the increase. He accounts for the greater amount of hysteria among women than among men by the fact that female children are more under the influence of hysterical mothers than are boys.

18. Enlarged Bronchial Glands.—The importance of these glands, their frequent oversight and their potential toward tubercle and the danger of neglect are pointed out by Clemens.

19. A Home-Made Sterilizer.—Stewart suggests the use of an ordinary wash boiler. Through the flange of the boiler cover holes are punched, passing a string through each. To sterilize heavy bed linen, sheets, etc., make a criss-cross network over the fabrics after packing the cover in the inverted position; put the instruments in the boiler itself, covering with about six inches of water and add one heaping tablespoonful of washing soda, put on the cover, place the whole on a stove and boil hard for ten minutes. Then let the apparatus cool. He says there is a distinct advantage in commencing the operation with cold water and again gradually lowering the temperature after boiling. When the cover is finally lifted it is a sterile tray and should be stood bottom upward on a convenient table, the strings severed, and its contents be allowed to remain undisturbed until each is required. He suggests care in disinfecting oily instruments by boiling, as water covered with a layer of oil may be raised to about 120 C. when it begins to boil explosively; it is then safer to be out of doors than in the kitchen.

Boston Medical and Surgical Journal.

December 10.

20 *General Peritonitis Complicating Scarlet Fever. John H. McCollom and John B. Blake.

21 Was He Insane? A Study in Mental Diagnosis. (To be continued.) C. A. Drew.

22 *A New Method of Closing the Abdomen After Laparotomy. Frank A. Higgins.

23 *Albuminuric Retinitis. Allen Greenwood.

24 As to Pope Leo's Case—Pleuro-Pneumonia. Samuel Delano.

25 Rupture of the Tendon of the Extensor Longus Pollicis; Tendon Transplantation. C. L. Scudder and W. E. Paul.

20. Peritonitis Complicating Scarlet Fever.—Two cases are reported by McCollom and Blake, who regard them as interesting on account of the fact that this complication is not referred to at any length in text-books. In both the peritonitis occurred late in the course of the scarlatina, due to streptococcus, and without any apparent local inciting cause. It seemed to be only a part of the widely distributed general infection involving other serous cavities, excretory organs, special sense organs and part of the circulatory system. The peritoneum, they think, was affected through the blood; there is no more obvious explanation. In the treatment palliative means may do if the signs of peritoneal infection are slight, but if the pulse rises, and pain, tenderness and spasm increase, drainage is imperative. The condition of the kidneys is the most definite contraindication to anesthesia, and whenever possible cocaine should be substituted for ether. The operation should consist of a rapid celiotomy, thorough irrigation with hot salt solution and drainage. The incision should be in the middle line unless there are definite local symptoms. Hot moist dressings, frequently changed, are desirable. Salt solution hypodermically or by rectum, and water by the mouth if the patient does not vomit are indicated. Stimulation should be free. Alcohol may be contraindicated by the kidney condition. Caffein, strychnia and digitalis may be used energetically. The prognosis is always grave.

22. Closure of Laparotomy Wounds.—Higgins uses a thin metal strip or plate over which he ties his mass suture, this underlaid by an antiseptic gauze, with a small pad of the gauze inserted under each end, thus keeping out infection. He is now testing a glass plate through which the healing of the wound can be watched.

23. **Albuminuric Retinitis.**—Two groups of this condition are recognized by Greenwood, one including those cases where endarteritis of the chorioretinal vessels is largely a part of a general arterial degeneration of which the chronic interstitial nephritis is also only a part. These cases occur in the old and middle-aged. The second group includes those cases due to uremic poisoning of the blood from acute or chronic lesions of the kidney, usually parenchymatous or diffuse. They occur mostly in youth and early adult life, showing a greater retinal destruction with consequent greater impairment of vision. The prognosis is bad in all but the cases resulting from scarlet fever and pregnancy. In the first group the chances of life are rather better. He reports briefly a number of cases of each group and gives the results. Of the 16 cases of the first group, 4 died within a year, 4 within two years, 4 within three years, and 1 lived nearly four years. One was lost sight of. Of the 2 living patients neither dates back over two and a half years. Of the 10 cases of the second group, 4 died within eight months, 1 within two years, 1 after four years and seven months, and 1 was known to be alive two and a half years after first being seen. The 2 cases occurring from pregnancy recovered, and the tenth case has been lost sight of.

New York Medical Journal.

December 12.

- 26 *The Administration of Antitoxin in Diphtheria by the Department of Health During 1902. J. S. Billings, Jr.
- 27 The Roentgen Rays in Therapeutics. Mihram K. Kassabian.
- 28 Report of a Case of Rupture of the Uterus in Which Hysterec-tomy Was Followed by Recovery. Francis T. Stewart.
- 29 Some of the More Infrequent Causes of Obstruction of the Common Bile Duct. Levi J. Hammond.
- 30 Dry Hot Air in the Treatment of Bright's Disease. (Con-cluded.) Clarence E. Skinner.
- 31 The Element of Faith in Healing. P. C. Kalloch.
- 32 A Case of Poisoning by Hyoscin Hydrobromate. Frederick Krauss.
- 33 The Treatment of Habitual Abortion. Anna S. Wilner, Frances Bradley and Eugene R. Corson.

26. **Diphtheria Antitoxin.**—Billings analyzes and tabulates the statistics of the use of diphtheria antitoxin by the health department of New York during the year 1902. In 15,792 cases injected, 1,860 died, a case fatality of 11.8 per cent.; 722 of these, however, were moribund when injected and deducting these reduces the mortality to 7.5 per cent. One fact brought out and especially emphasized in the report is the imperative necessity of the earliest possible administration of antitoxin. Of the 1,702 cases injected the first day of the disease, only 85 patients died, including the moribund cases, or less than 5 per cent.

Cincinnati Lancet-Clinic.

December 12.

- 34 Only a Step—Sanitation. H. H. Speers.
- 35 *Treatment of Lupus with Local Applications of Turpentine. W. S. Hoy.
- 36 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thy-roid. (Continued.) B. Merrill Ricketts.

35. **Lupus.**—Hoy advocates the use of turpentine in lupus and reports three cases in his experience where it succeeded. The method was in keeping the ulcer more or less saturated with turpentine all the while. In all of the applications, picric acid gauze or cotton was used to keep the parts moistened with the turpentine.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

- 1 (XXIX, No. 48.) *Zur Behandlung der akuten Mittelohrent-zündung (otitis media). Heine (Lucae's clinic, Berlin).
- 2 *Zur Frage der Indikation und des Erfolges der Talma'schen Operation bei der atrophischen Leber-Cirrhose. R. Lenzmann.
- 3 Lubarsch's Technik of Rapid Hardening and Embedding. O. Lubarsch (Posen).—Ueber meine Schnellhärtungs- und Schnelleinbettungsmethode.
- 4 *Zur Aetiologie der Endometritis exfoliativa. S. Gottschalk.
- 5 *Attempt to Produce an Antibody with Aid of Blood Serum of Cancer Subjects. C. S. Engel (Berlin).—Ueber einen Versuch, mit Hilfe des Bluteserums Carcinomatöser einen Antikörper herzustellen.
- 6 Adrenalin in Severe Hemorrhage. R. Kirch.—Ueber Adrenalin und seine Anwendung bei schweren Blutungen.
- 7 Physiologic Requisites for a Comfortable Reclining Position. T. Schroe.—Ueber die phys. Bedingungen einer bequemen Ruhelage.

- 8 Ankylostomiasis in Dortmund. G. Helmann (Berlin).—Das Auftreten der Wurmkrankheit im Oberbergamtsbezirk Dort-mund.

9 Das Honorar der Spezial-Aerzte.

1. **Acute Otitis Media.**—Heine describes the principles that prevail at Lucae's clinic in the treatment of this affection. Rest and application of warmth are first advised when there is little if any pain and no fever, and also sometimes in the case of children when an exudate in the middle ear may be assumed, but the color and general aspect of the tympanum indicate that the exudate is serous. Paracentesis is done at once when the pains are very intense and interfere with sleep at night, or even in the absence of intense spontaneous pain when the mastoid process is sensitive to pressure. Paracentesis is of course indicated at once on the first suspicion of meningeal inflam-mation. He reports a case in which the patient died five weeks after the commencement of a sudden and acute otitis media. He was a healthy young workman, and he continued at work for three weeks before seeking a physician. The necropsy showed recent basilar meningitis originating in the ear trouble. The suppuration in the middle ear had been unable to force a way out through the peculiarly thick tympanum and had penetrated through the oval fenestra into the labyrinth. Paracentesis in time would have undoubtedly saved this patient's life, but after the third week the damage had already been done.

2. **Talma's Operation in Atrophic Cirrhosis of the Liver.**—Lenzmann adds another to the list of entirely successful opera-tions of this class. From his experience and that of others he advocates the operation in every case of atrophic cirrhosis of the liver when the organ is not yet perceptibly shrunken, but the signs of congestion in the portal vein, development of ascites, etc., are noticeable. Also when the liver is somewhat shriveled and there is more or less ascites, but the liver tissue is still functioning to a certain extent, as shown by the absence or slight degree of icterus. On the other hand, he thinks there is little prospect of success when the icterus is pro-nounced or when there is urobilinuria or when hemorrhages from the mucosae, delirium, etc., indicate complete or consid-erable insufficiency of the liver function responsible for the production of bile. The heart action must still be good to insure the development of collateral circulation.

4. **Etiology of Exfoliating Endometritis.**—Gottschalk de-scribes a case in which he discovered numerous thrombi in the veins of the uterine mucosa. The membranes had become detached from their foundation by a dissecting effusion of blood, the same as in premature detachment of the placenta. The thrombi were evidently due to stagnation of the blood from weak heart action. No micro-organisms were found in the tissues. The findings in this case suggest that the routine method of treatment by abrasio is irrational.

5. **Serum Treatment of Cancer.**—Engel drew 10 to 15 c.c. of blood twice a week from each of two subjects with inoperable cancer of the stomach or esophagus and injected the serum into rabbits. His aim was to induce the production of antibodies without antialexins. To eliminate the alexins the serum was heated to 58 C. before injecting. He describes his tests of the rabbit serum thus produced. It was injected into the cancer subjects with a further supply of alexins in the form of normal serum from healthy human subjects. Tests of the serum *in vitro* indicated that antibodies had been generated in the serum of one of the rabbits, while the tests were negative with the serum from another rabbit. One of the cancer sub-jects showed considerable improvement after this serum treat-ment and became able to swallow solid foods previously im-possible. He returned twice a week for the withdrawal of blood and injection of the prepared serum, but the disease con-tinued its course, and he died in less than four months. The other patient showed no improvement and died in a little more than two months. Engel thinks that serumtherapy founded on injections of cancer tissue is more promising than that founded on injections of serum. Further researches at present under way indicate that the prospects are much better for the production of an effective animal serum by injection of human blood serum from subjects with constitutional diseases other than cancer.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one title, and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles and the subjects of: editorials, society proceedings, abstracts, medicolegal, and miscellaneous matter appearing in THE JOURNAL; the titles of: "Editorials," "Book Notices," "Deaths," "Societies," "Association News," and "State Boards of Registration" are indexed and arranged under their separate headings in the "Index of Departments," instead of in the body of the "General Index." The "General Index" contains the subjects of articles in other journals which have been abstracted in THE JOURNAL. The titles and authors of all other articles from other journals are under the "Current Medical Literature Index."

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SOCIETIES.

- Abbreviations:
A.—Association.
S.—Society.
M.—Medical, Medicine.
Acad.—Academy.
Phys.—Physician.
Surg.—Surgical, Surgery, Surgeons.
Coll.—College.
Ry.—Railway.
Dist.—District.
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